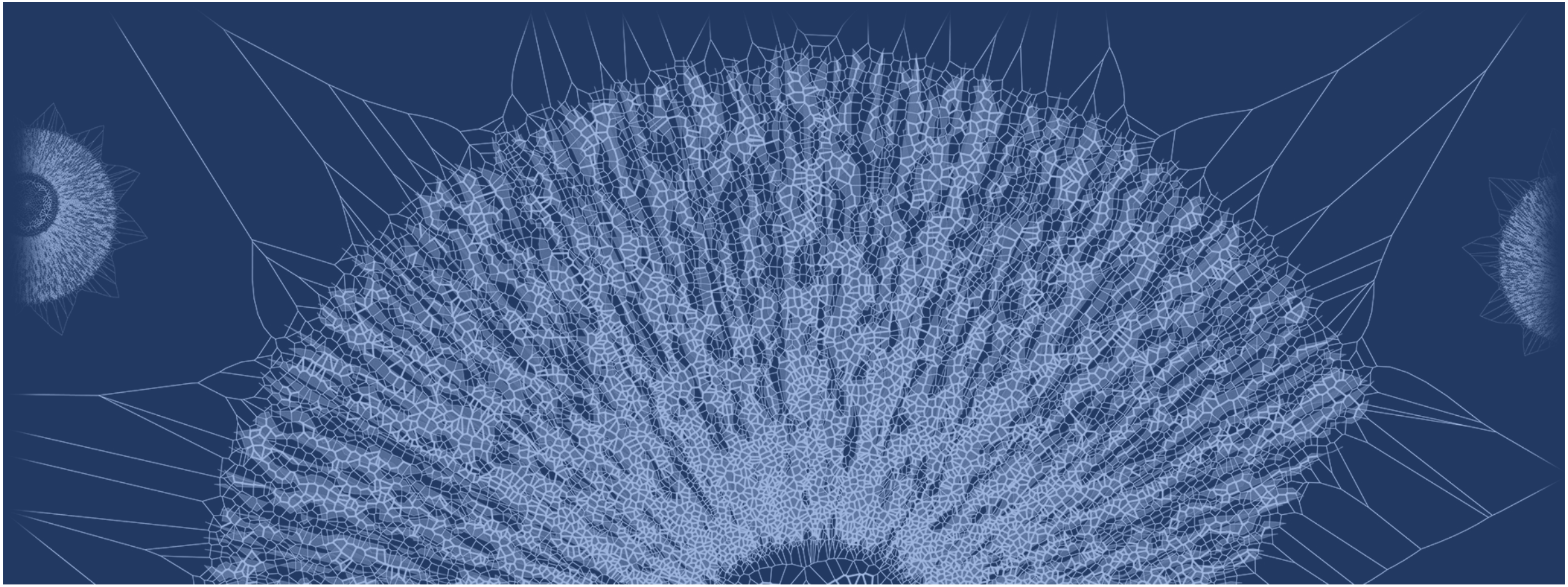
Champion Provider Fellowship: Data Storytelling Workshop

June 12, 2025

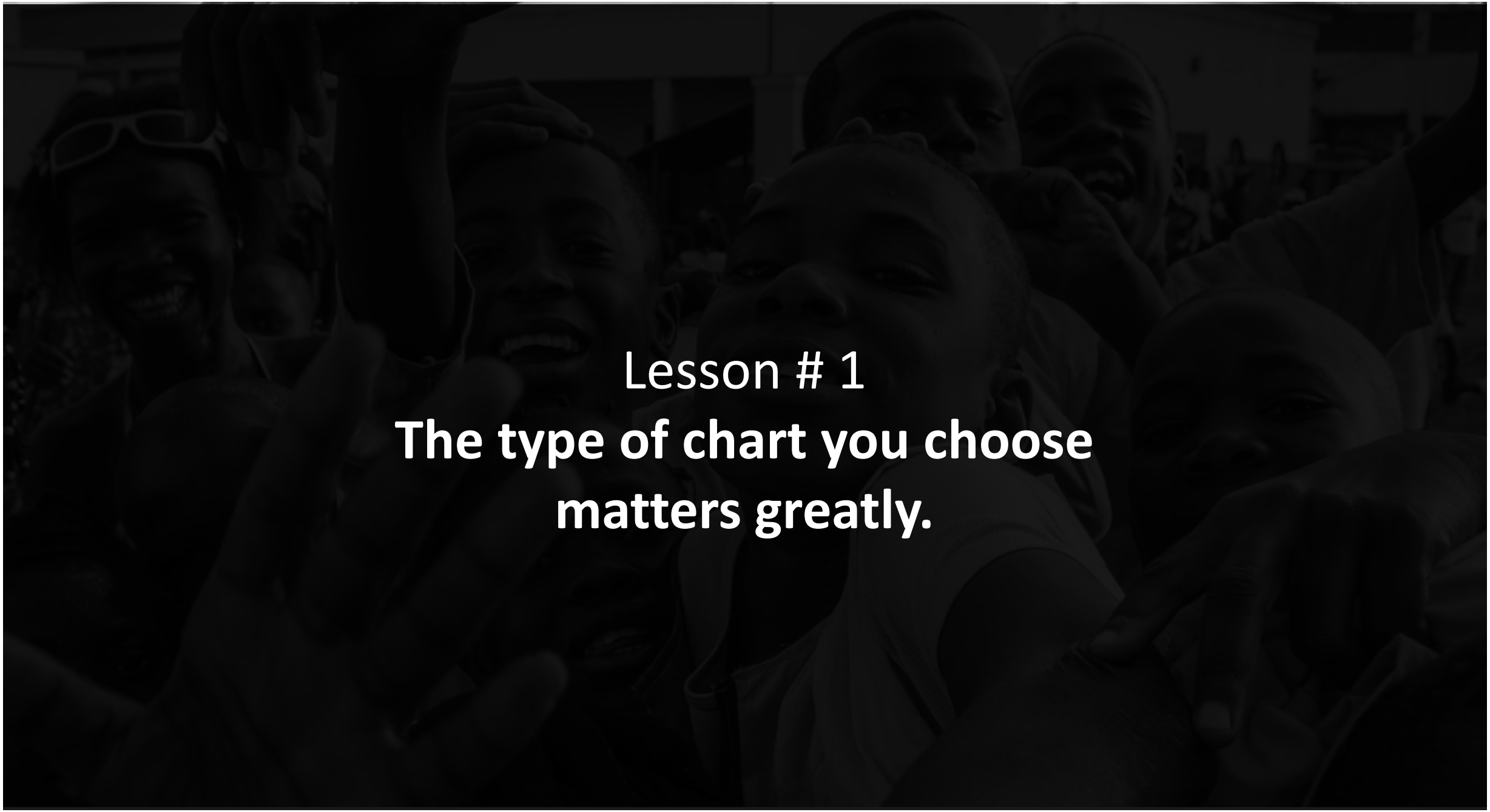
HILLCREST
ADVISORY

Agenda

- Lessons learned in communicating with data (30 minutes)
- Data Storytelling Tools (10 minutes)
- Roll-up-Your-Sleeves Exercise to Practice Data Storytelling (45 minutes)

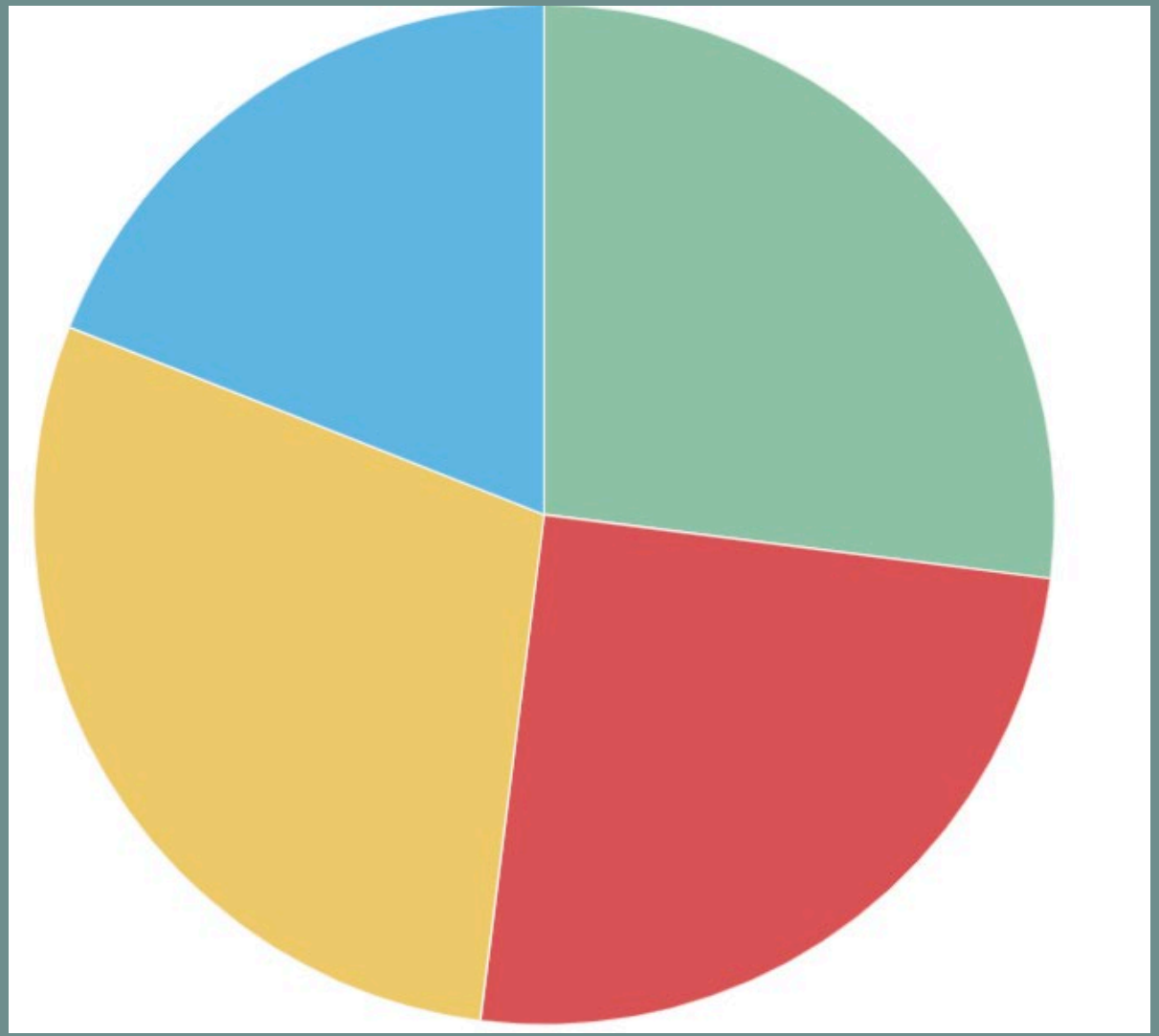


Lessons Learned:
Building Visualizations


Lesson # 1
The type of chart you choose
matters greatly.

For example, be careful with the pie graph…

It can be hard to distinguish between “slices” of a pie chart.



Lesson # 1

It’s easier for us to interpret the same information as bars.

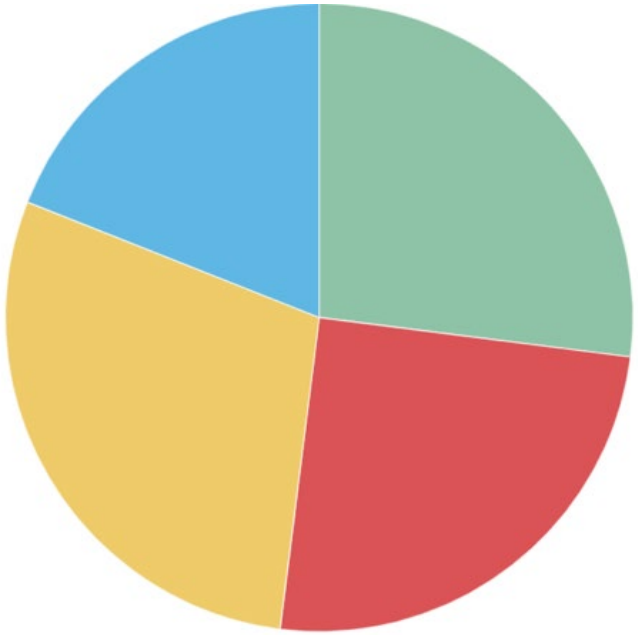
Helpful Links:

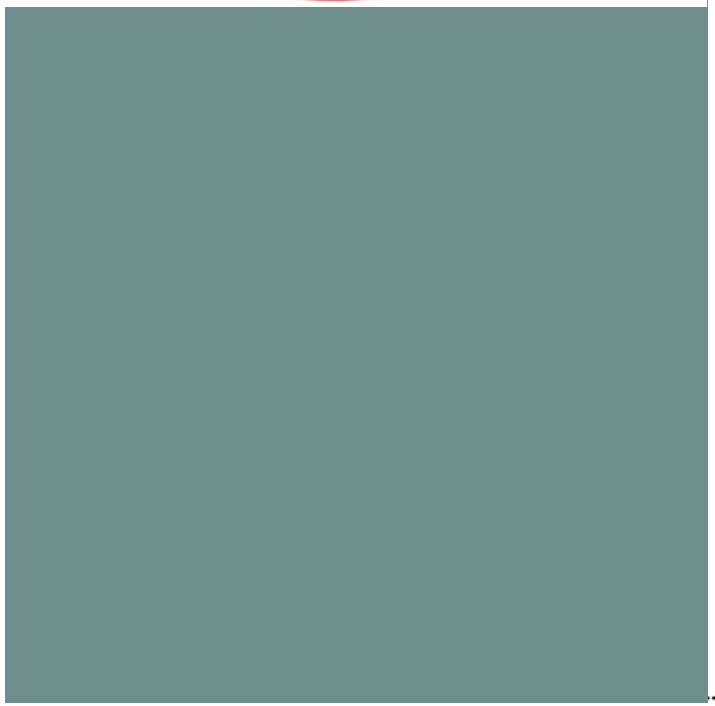
[Chart types: Choosing the right chart or map]

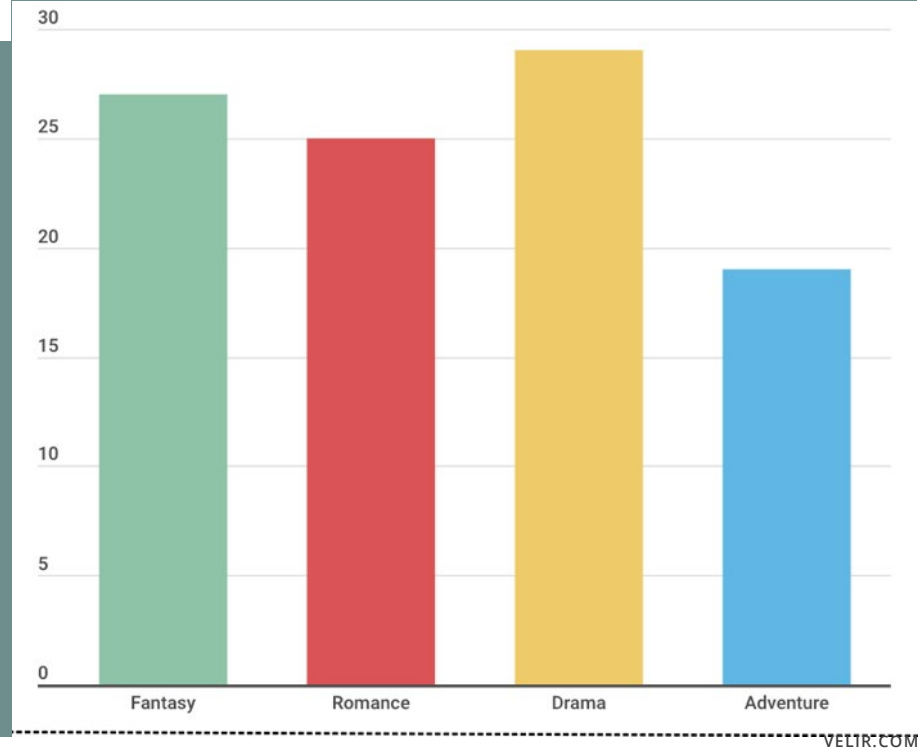
[Financial Times’ guide to graph options]

[A primer on table design]

[When to use pie charts]







Lesson # 1

Speaking of choices, the colors you choose for visualizations also make a difference.

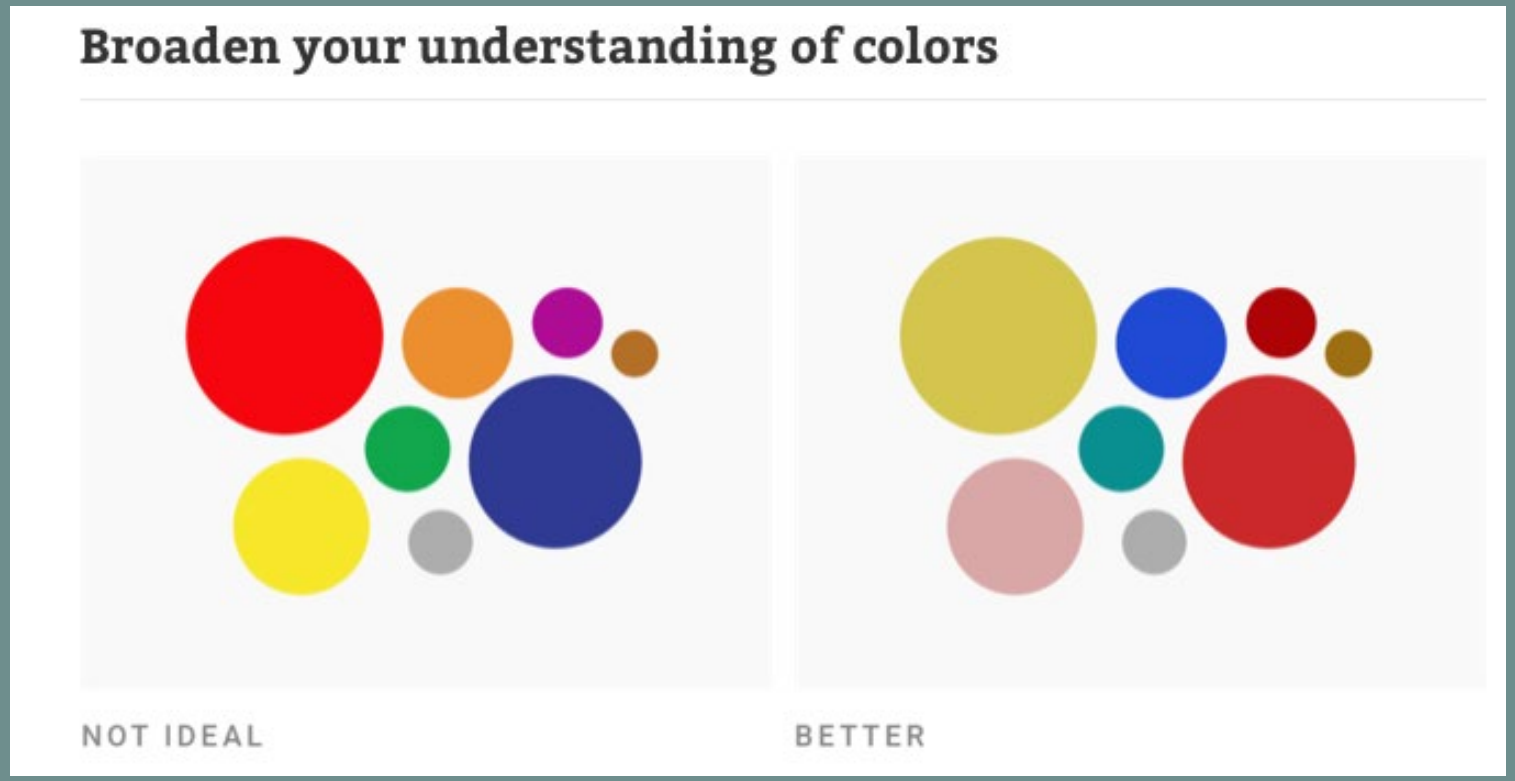
Helpful Links:

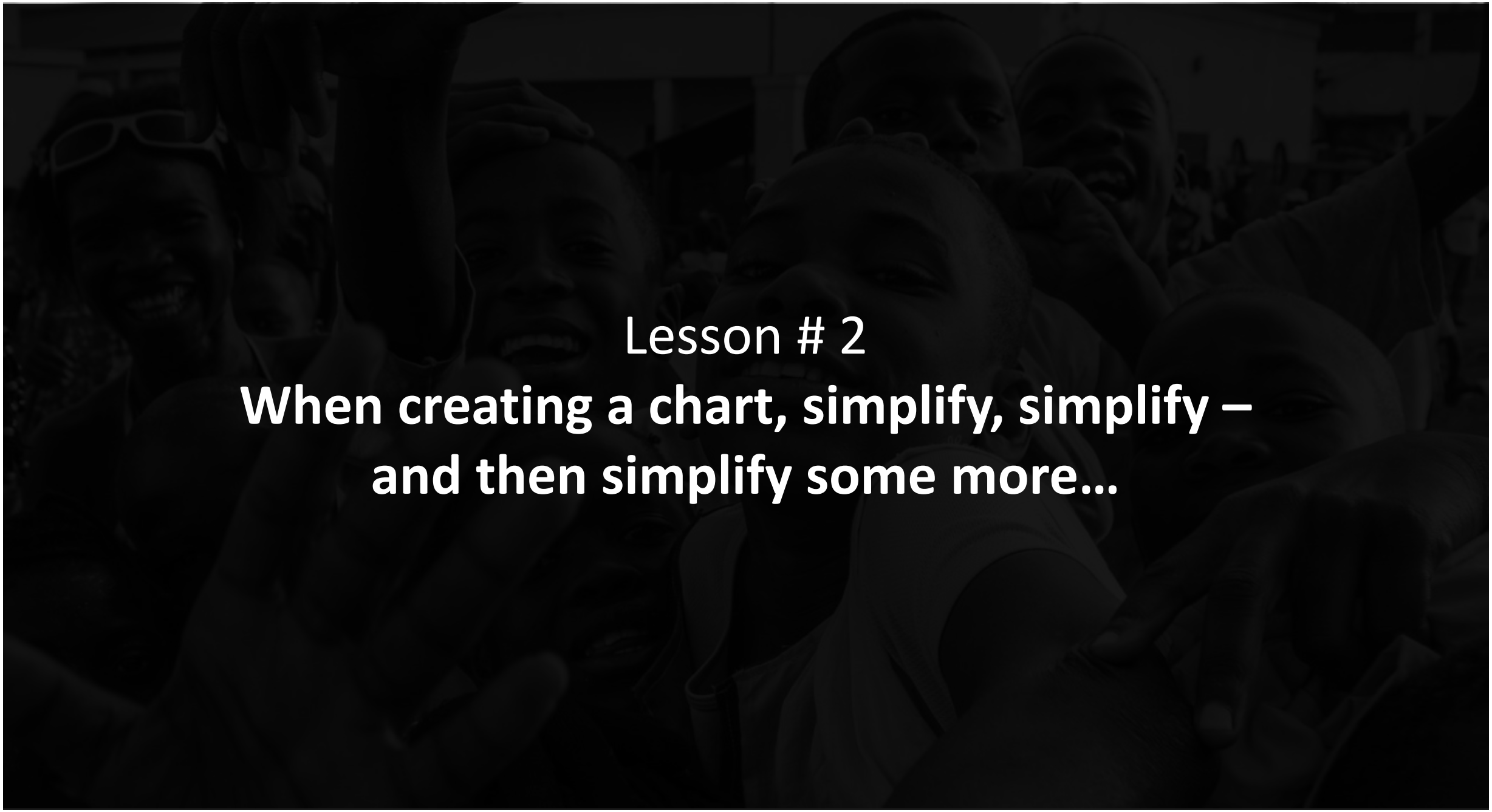
[Datawrapper: How to pick more beautiful colors]

[Datawrapper: What to consider when choosing colors for data viz]

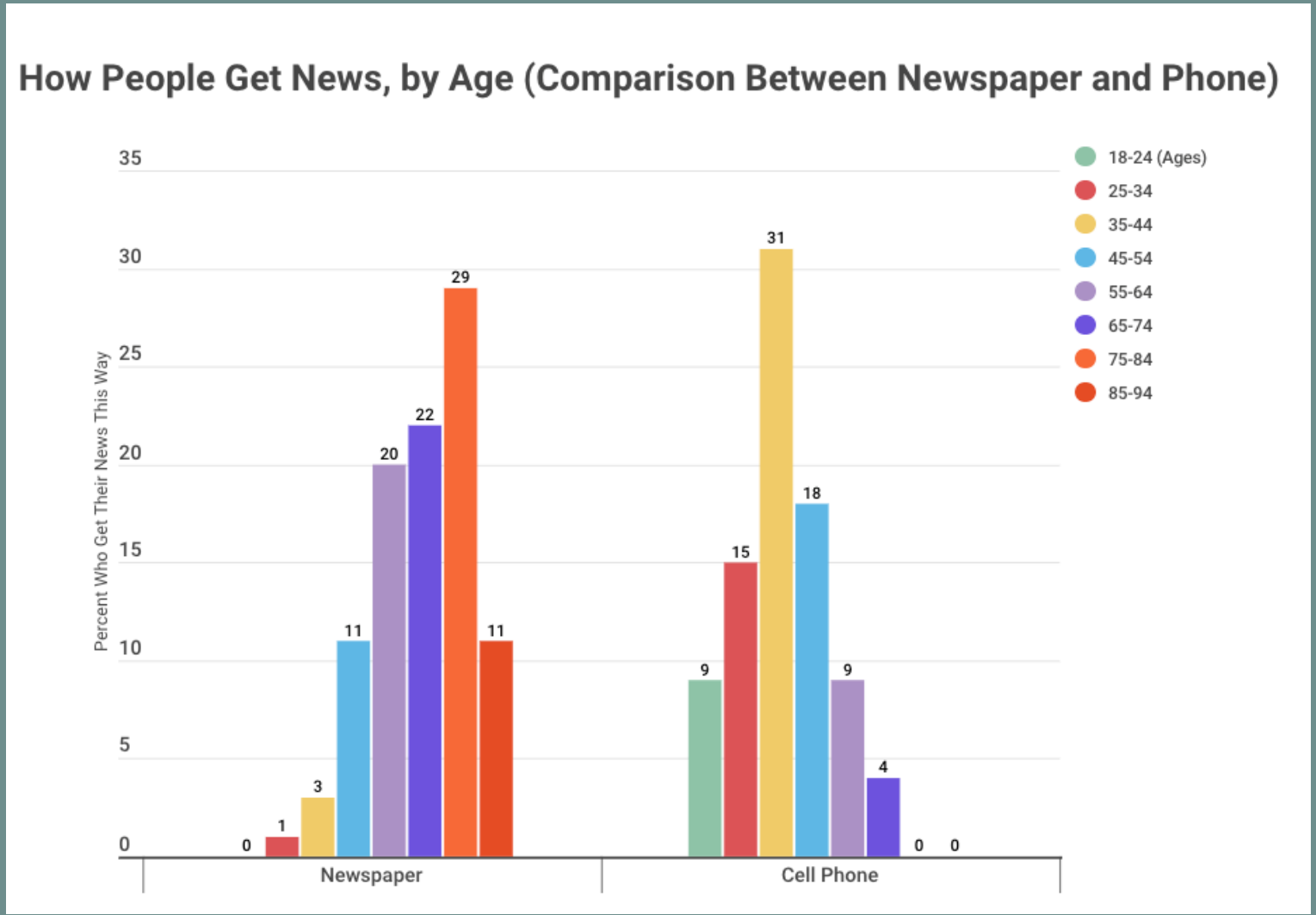
[Nightingale: Your brand colors don’t work for data viz]

Lesson # 1




Lesson # 2
When creating a chart, simplify, simplify –
and then simplify some more…

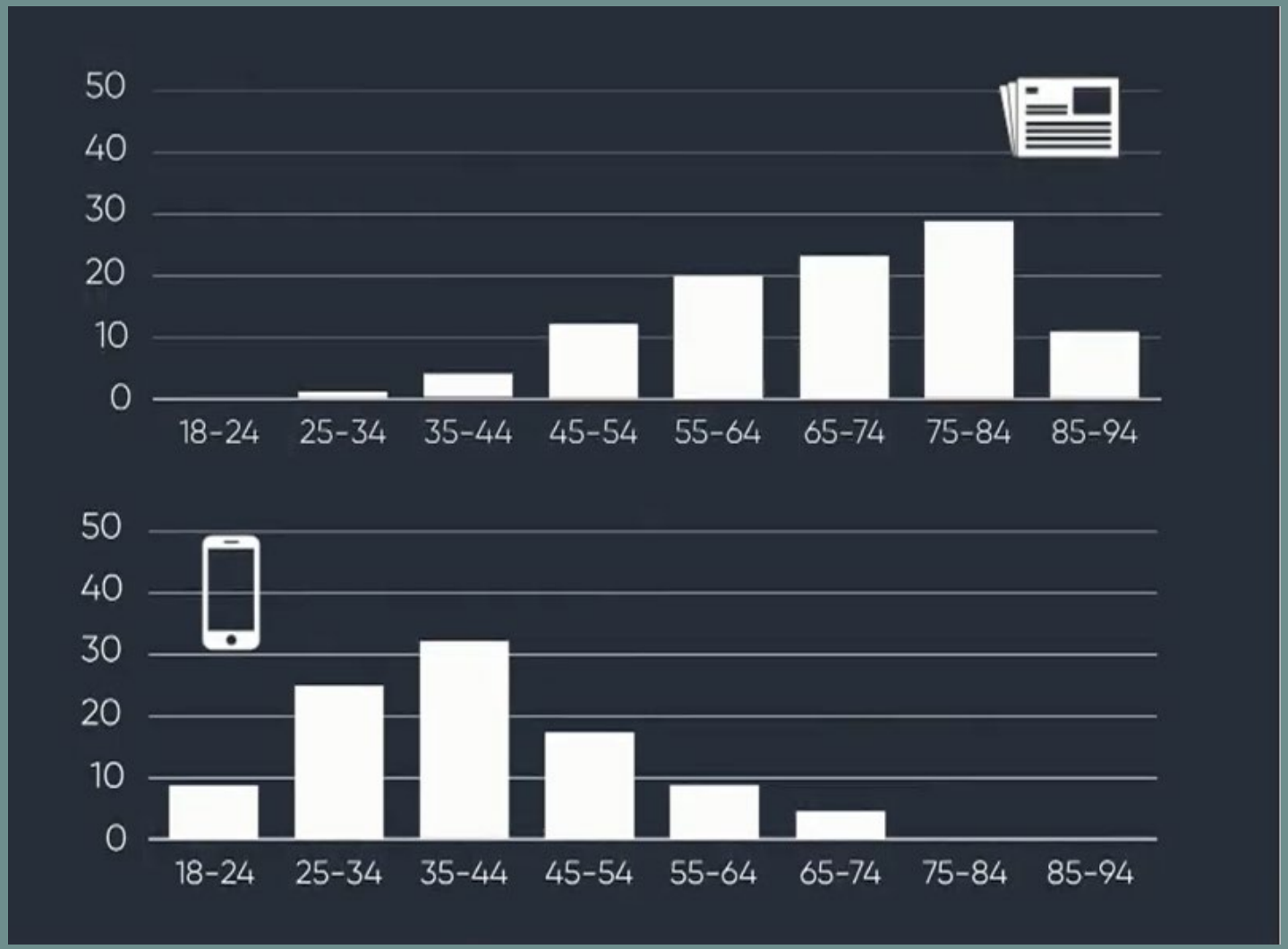
Any ideas what we can do to simplify this chart?



Lesson # 2

The simplest chart I’ve seen…

No bells and whistles (or for that matter, words), but it gets the point across.



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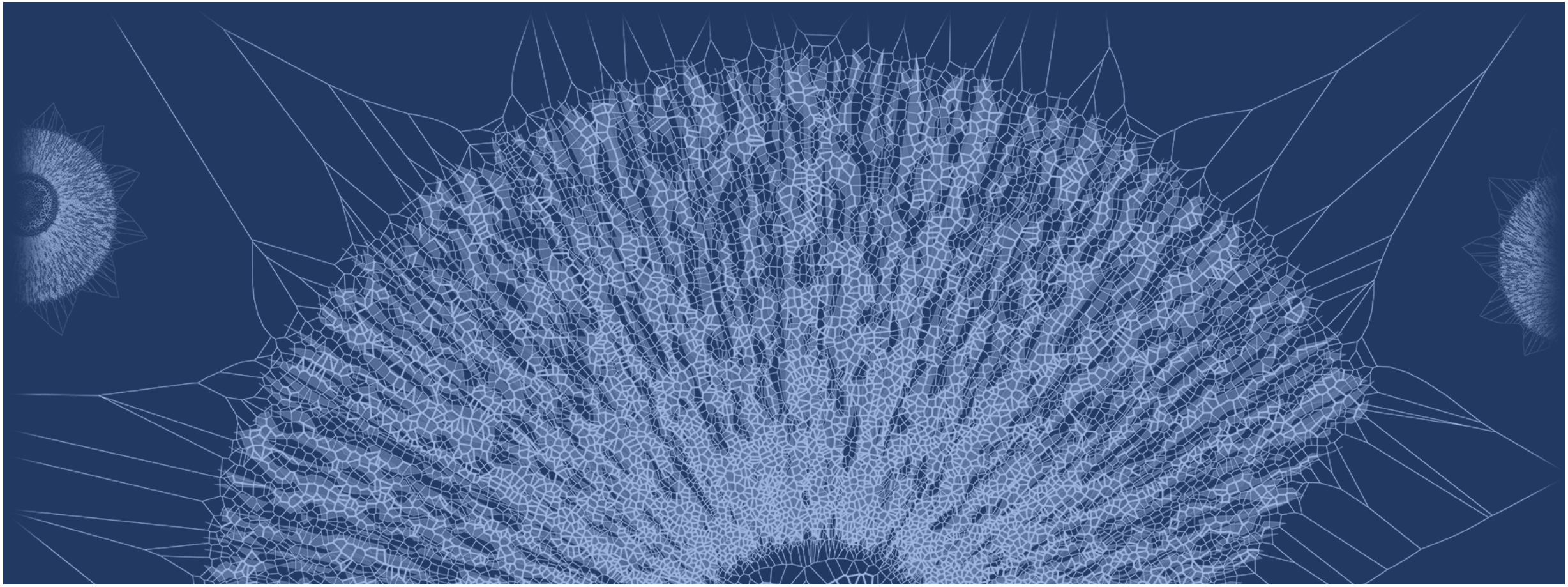
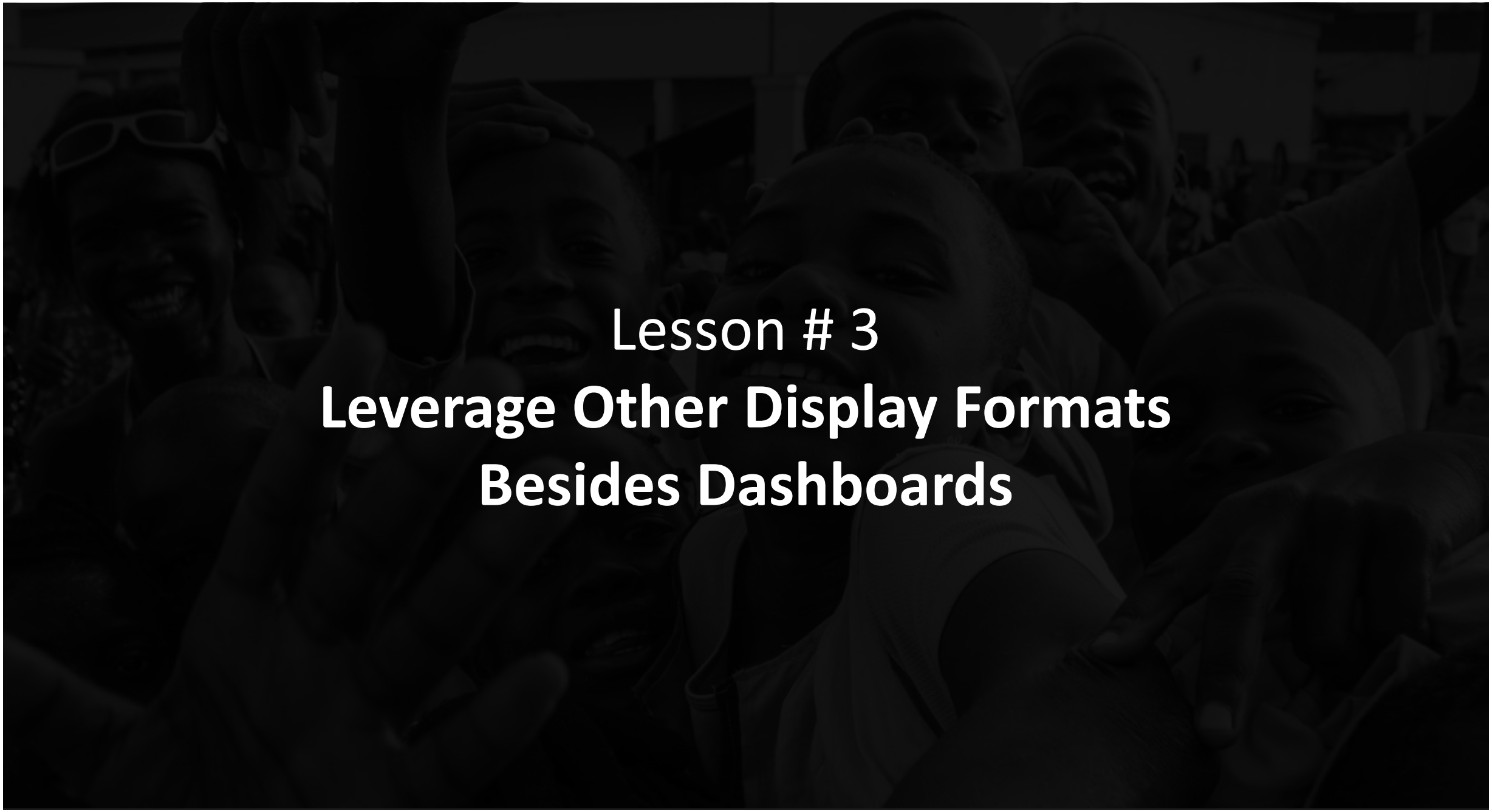


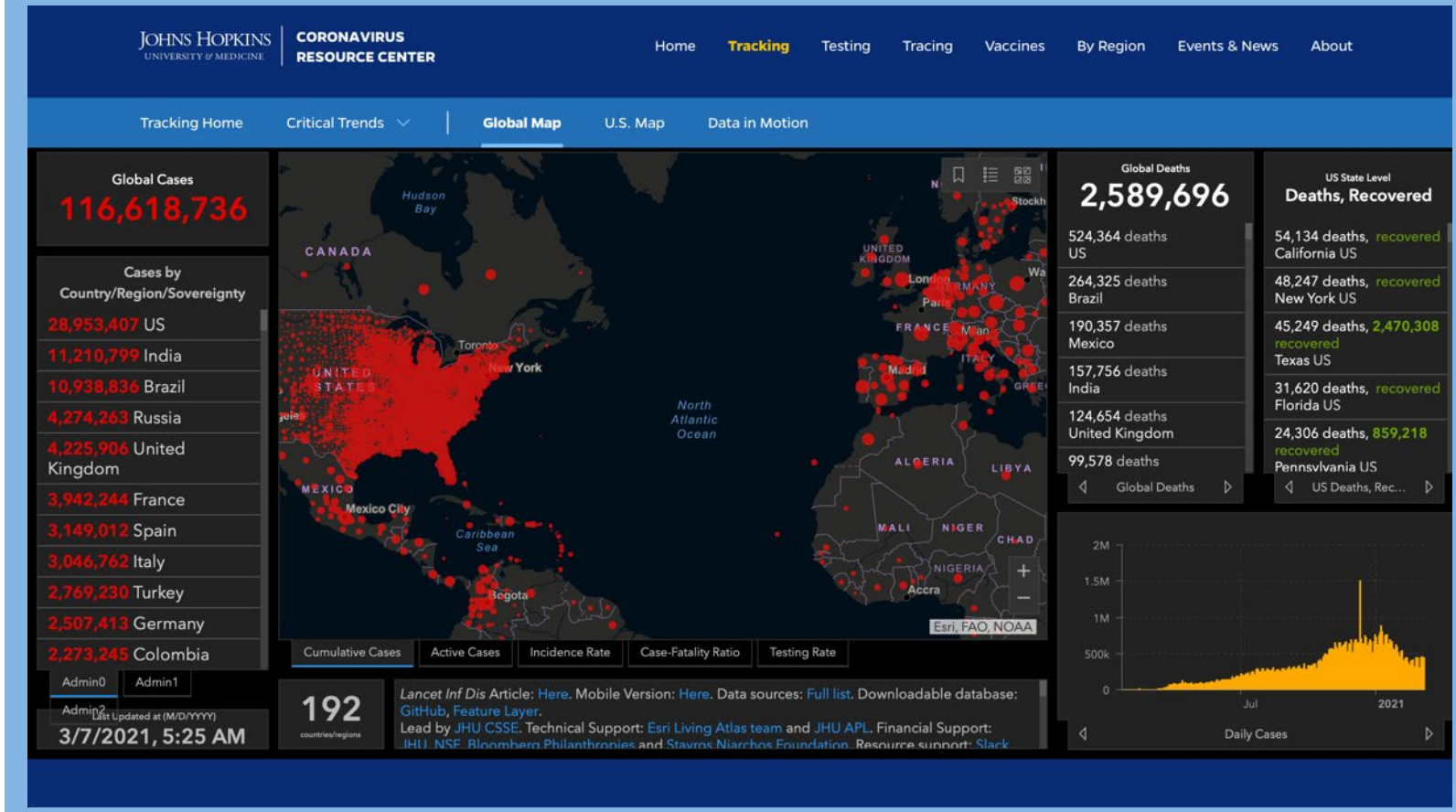
Lessons Learned:
Data Storytelling



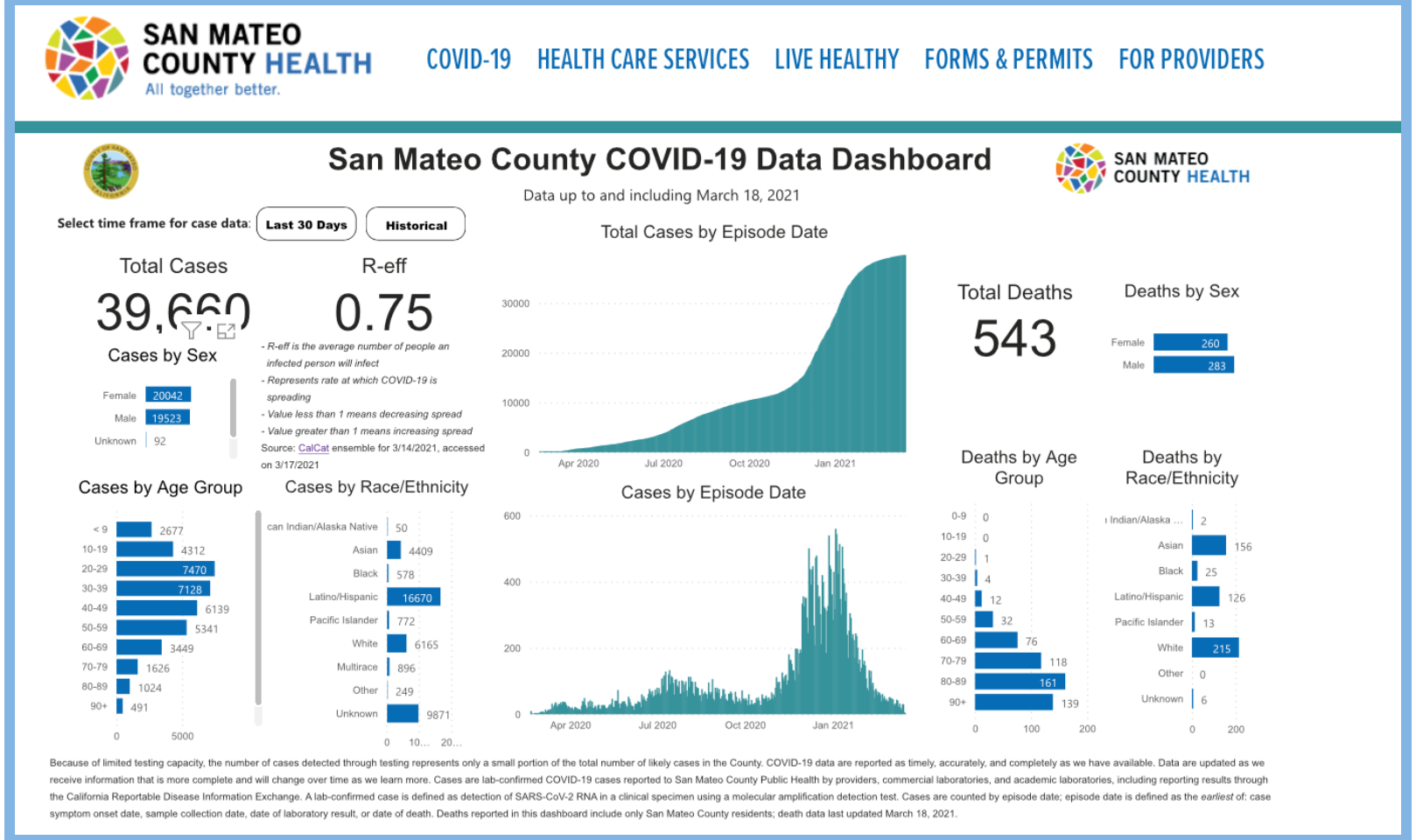
Lesson # 3

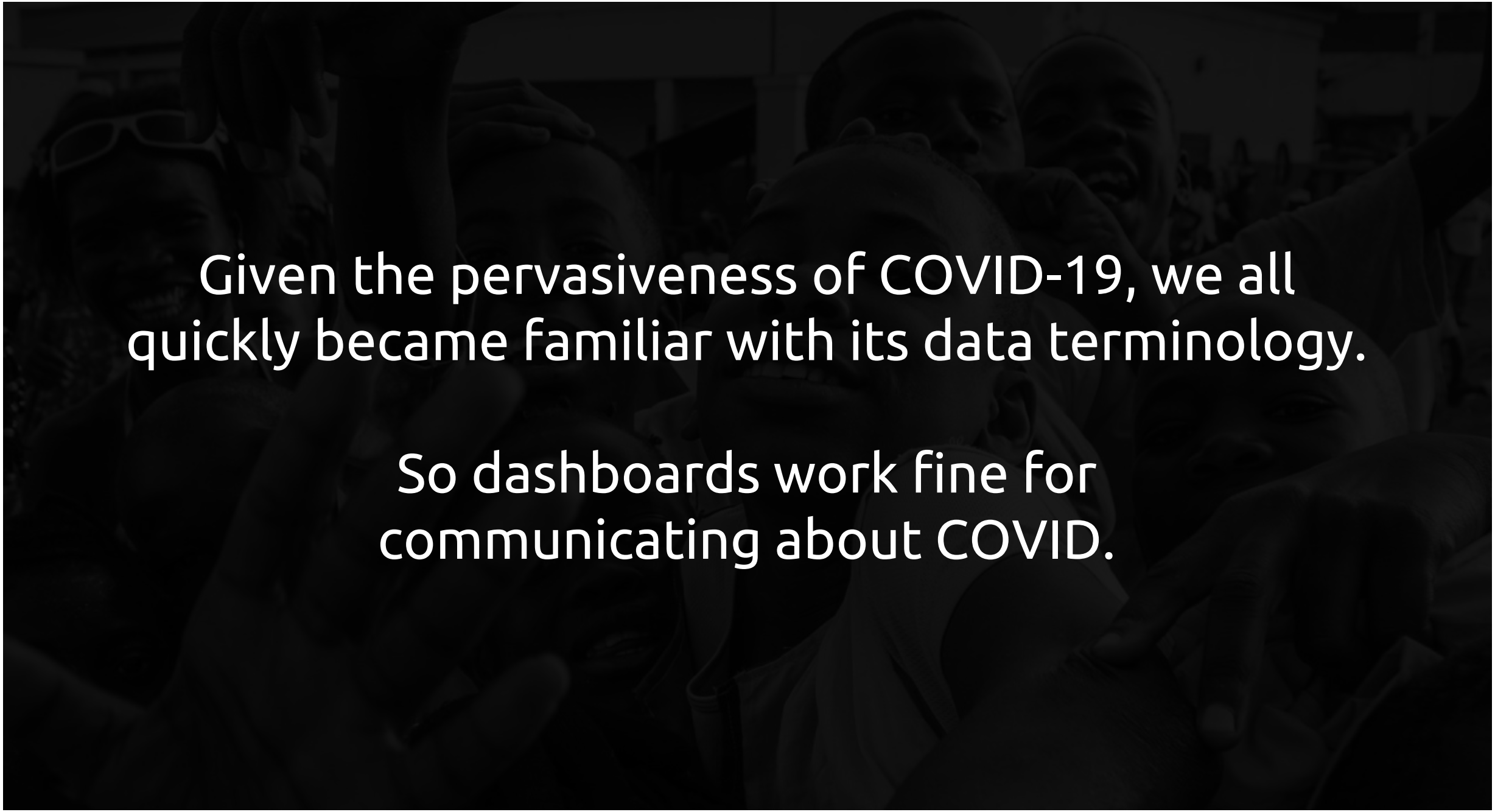
Leverage Other Display Formats Besides Dashboards

COVID-19 has made all of us very familiar with viewing data through dashboards.

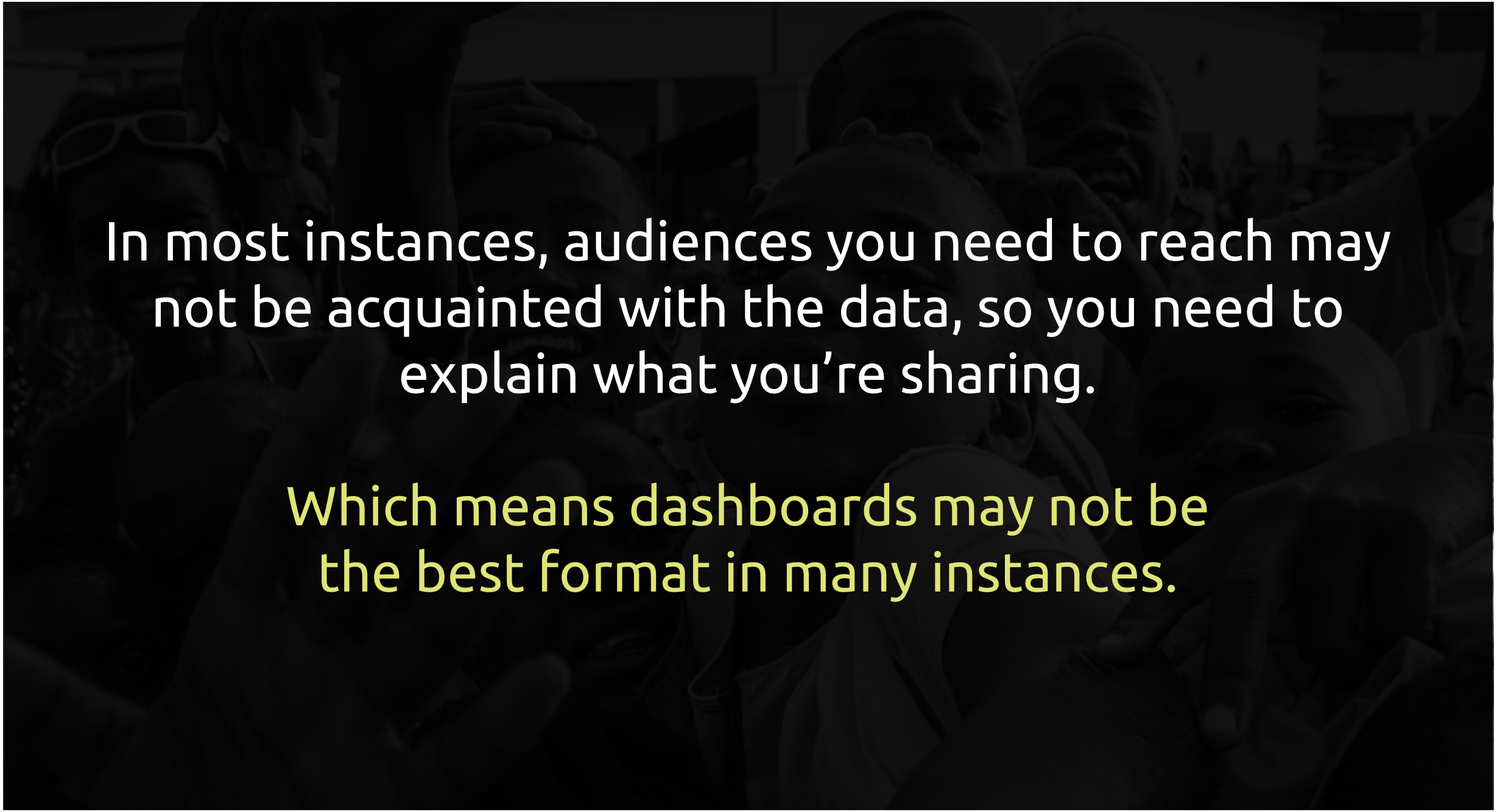


With dashboards, it's all about the graphs.

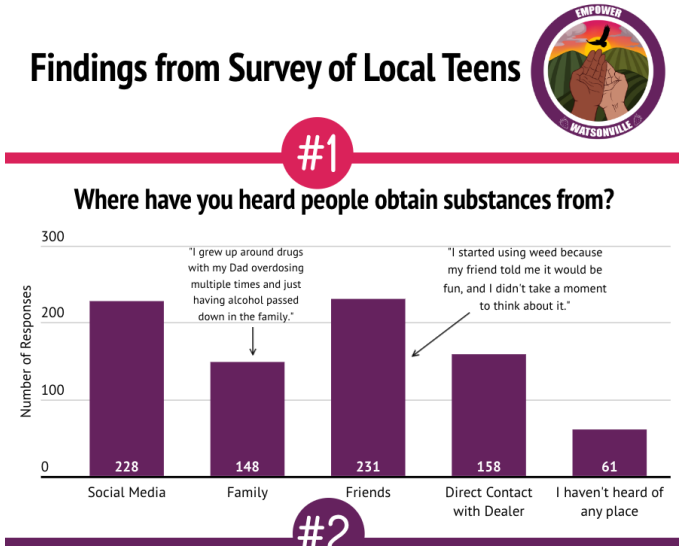



Given the pervasiveness of COVID-19, we all quickly became familiar with its data terminology.
So dashboards work fine for communicating about COVID.

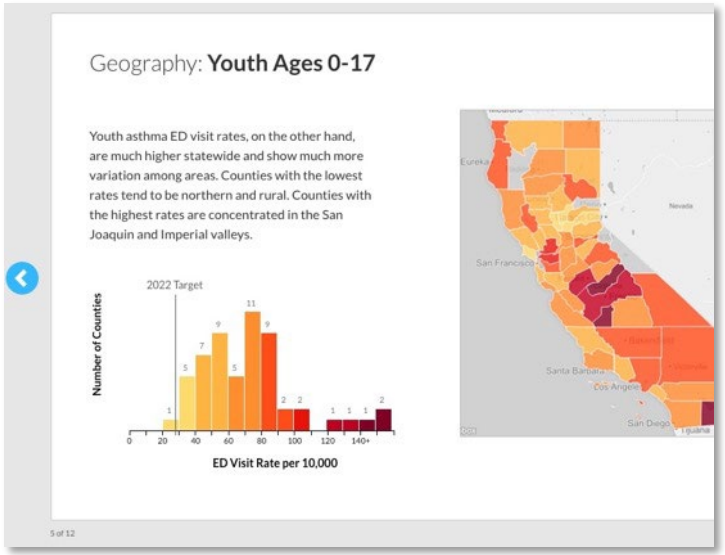

Dashboards, however, don’t typically leave
much room for context and explanation.


In most instances, audiences you need to reach may not be acquainted with the data, so you need to explain what you’re sharing.
Which means dashboards may not be the best format in many instances.


There is another display format to consider:
Data Stories



Fact Sheet Handout

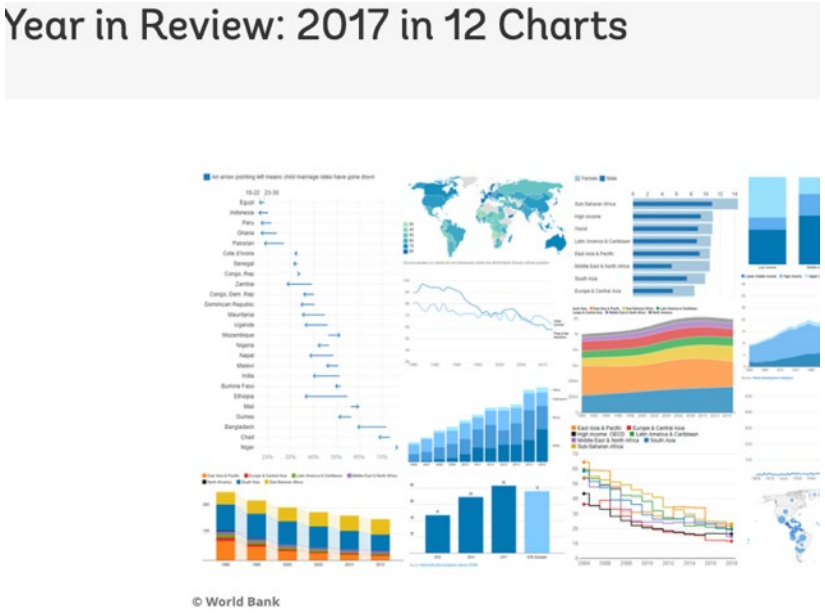


Slideshow

Infographic

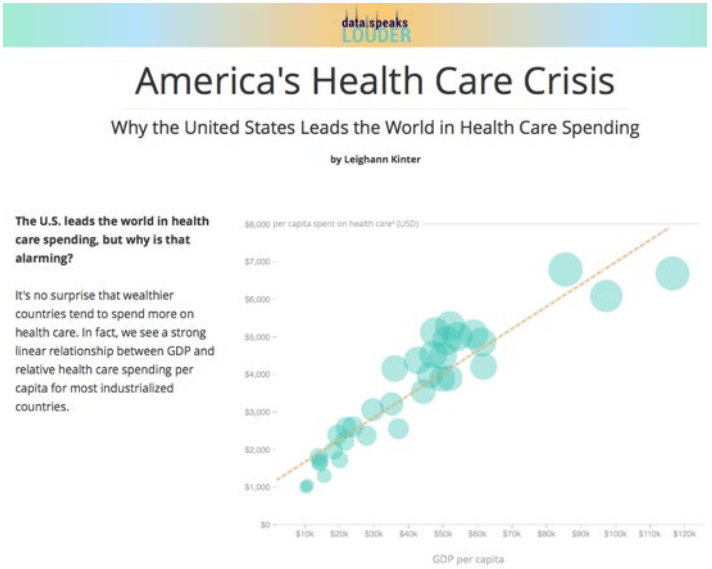
How Can We Display Data?

There are numerous data storytelling formats…



List

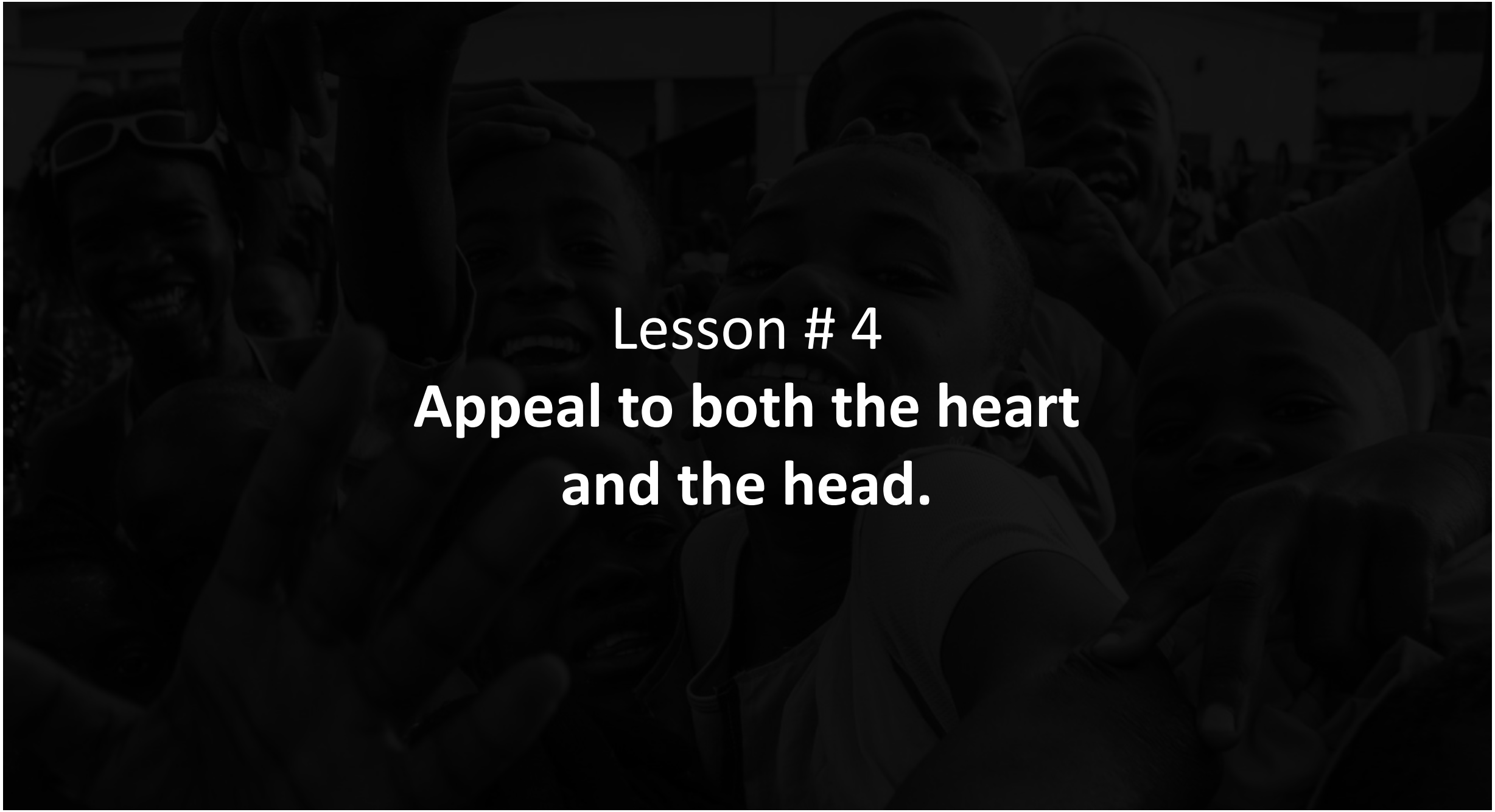
Persuasive Narrative

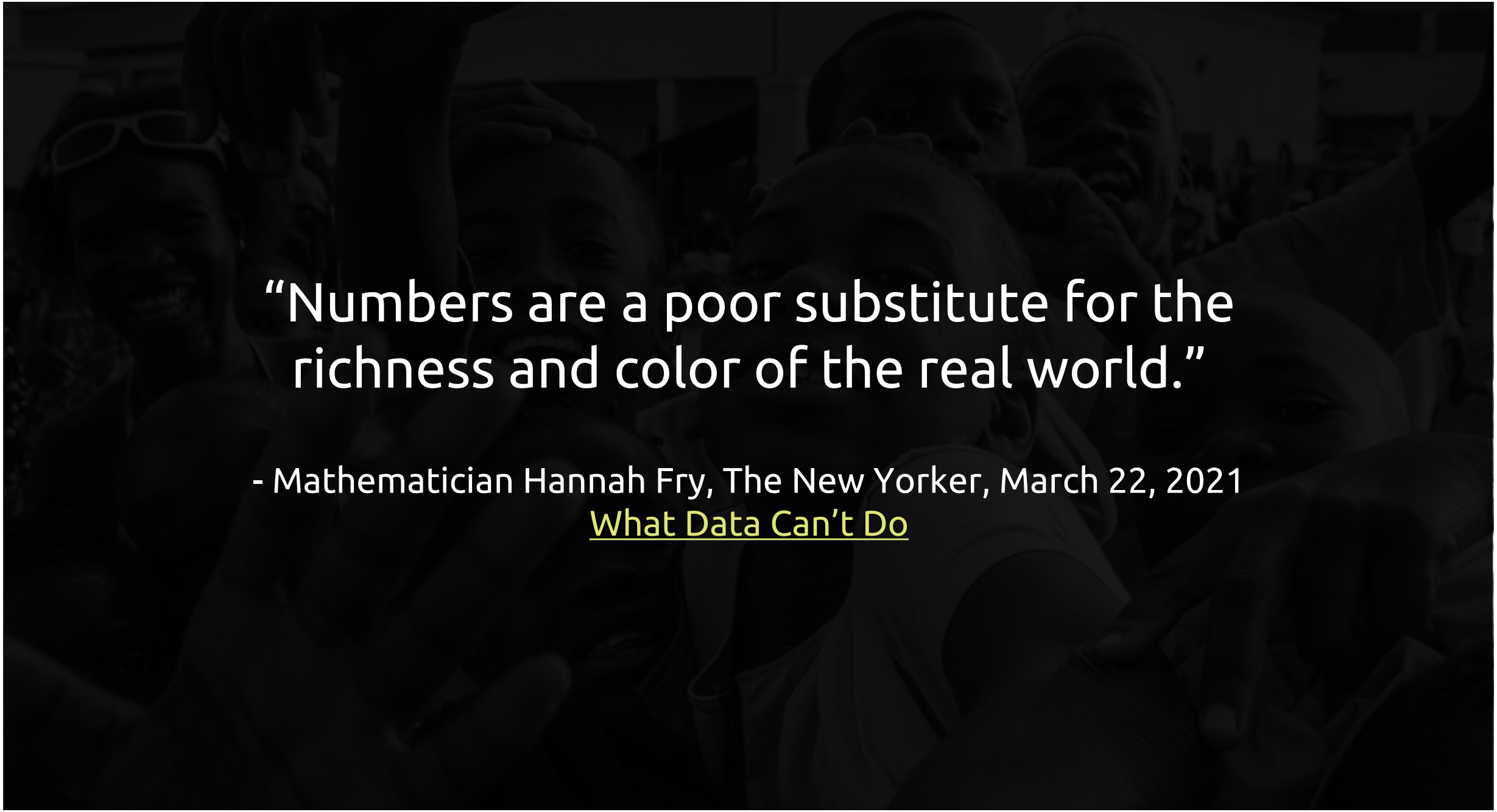


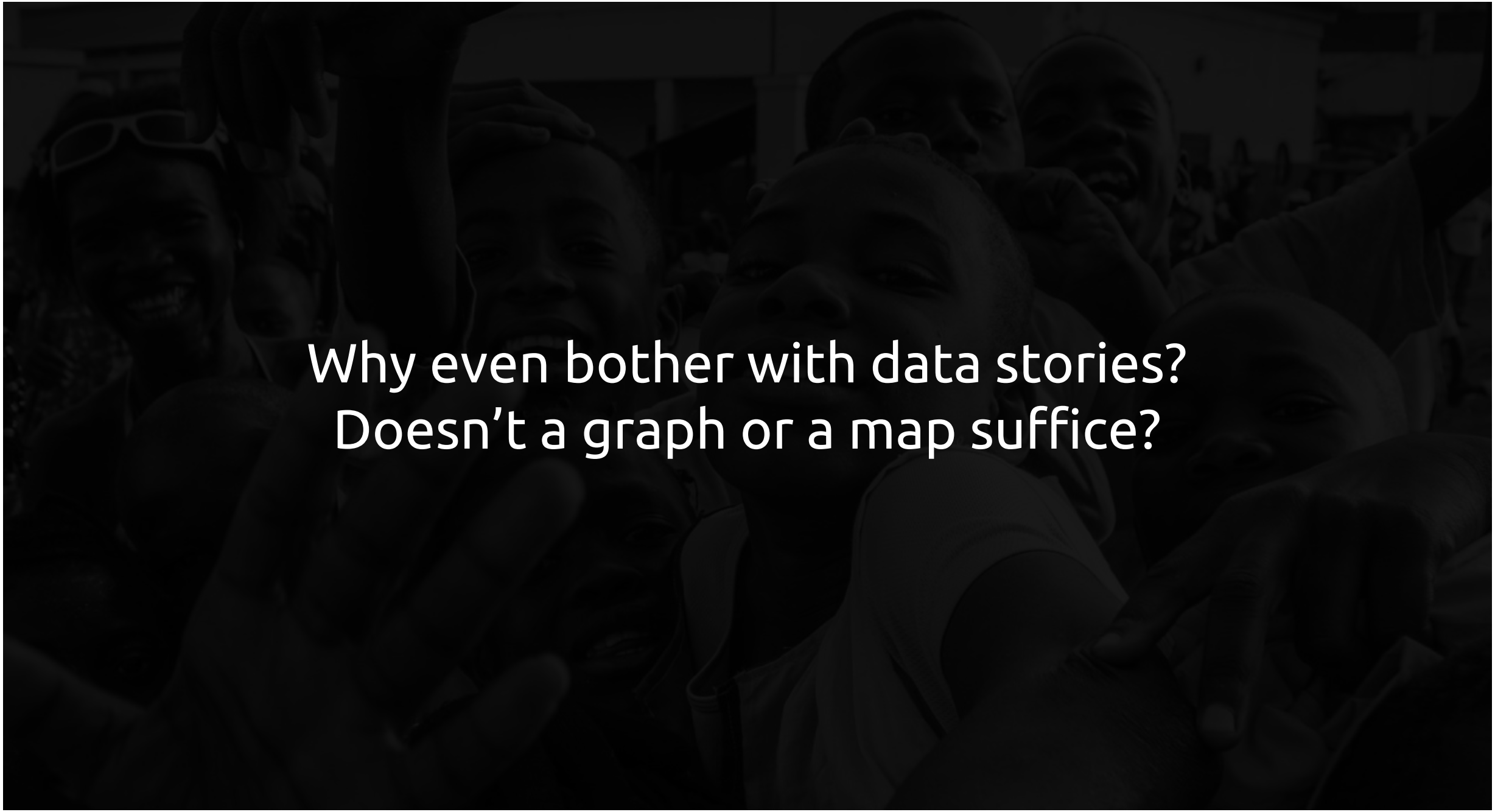
Q&A

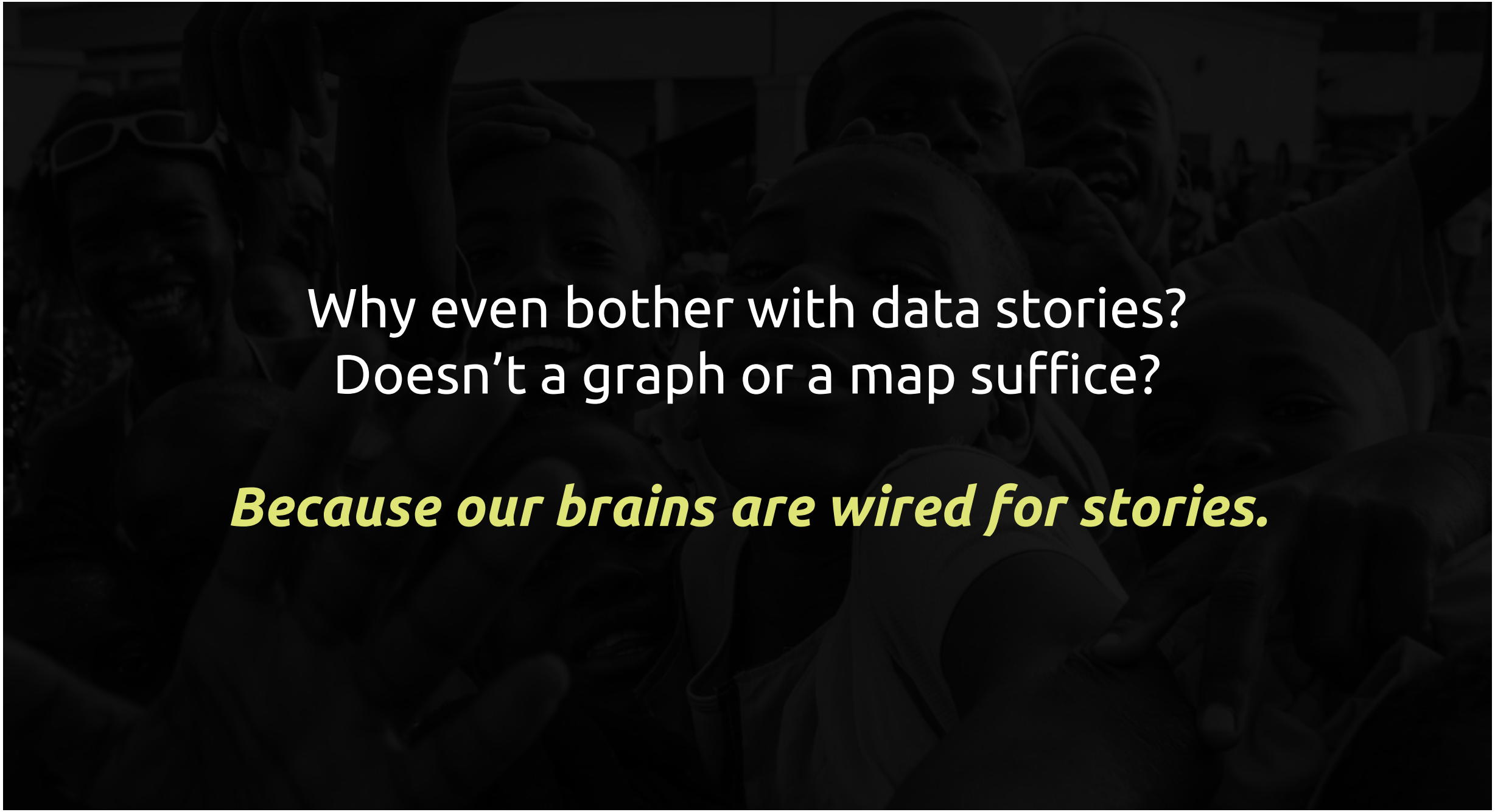
How Else Can We Display Data?

There are numerous data storytelling formats…


Lesson # 4
Appeal to both the heart
and the head.


“Numbers are a poor substitute for the richness and color of the real world.”
- Mathematician Hannah Fry, The New Yorker, March 22, 2021
What Data Can’t Do


Why even bother with data stories?
Doesn’t a graph or a map suffice?


Why even bother with data stories?
Doesn’t a graph or a map suffice?
Because our brains are wired for stories.

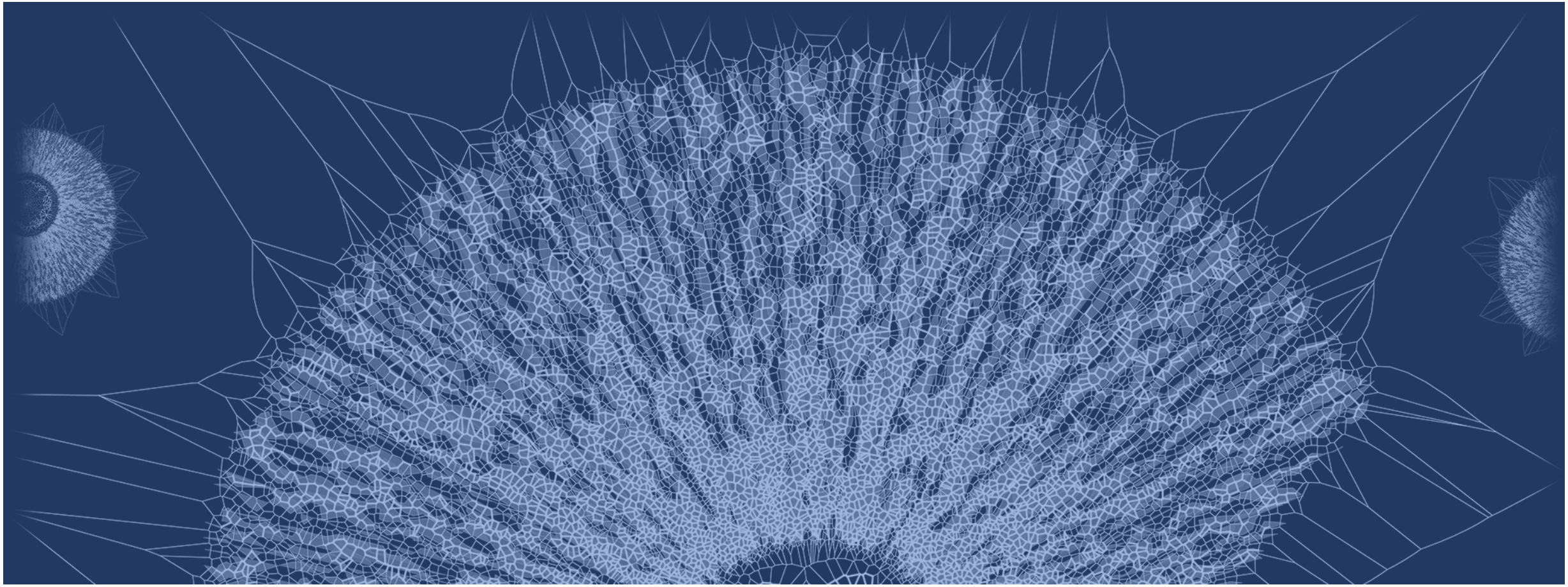
Poignant quotes and personal stories to draw the reader in.

Example

Lesson # 4

Introduce individuals to help you narrate your data findings.

Lesson # 4



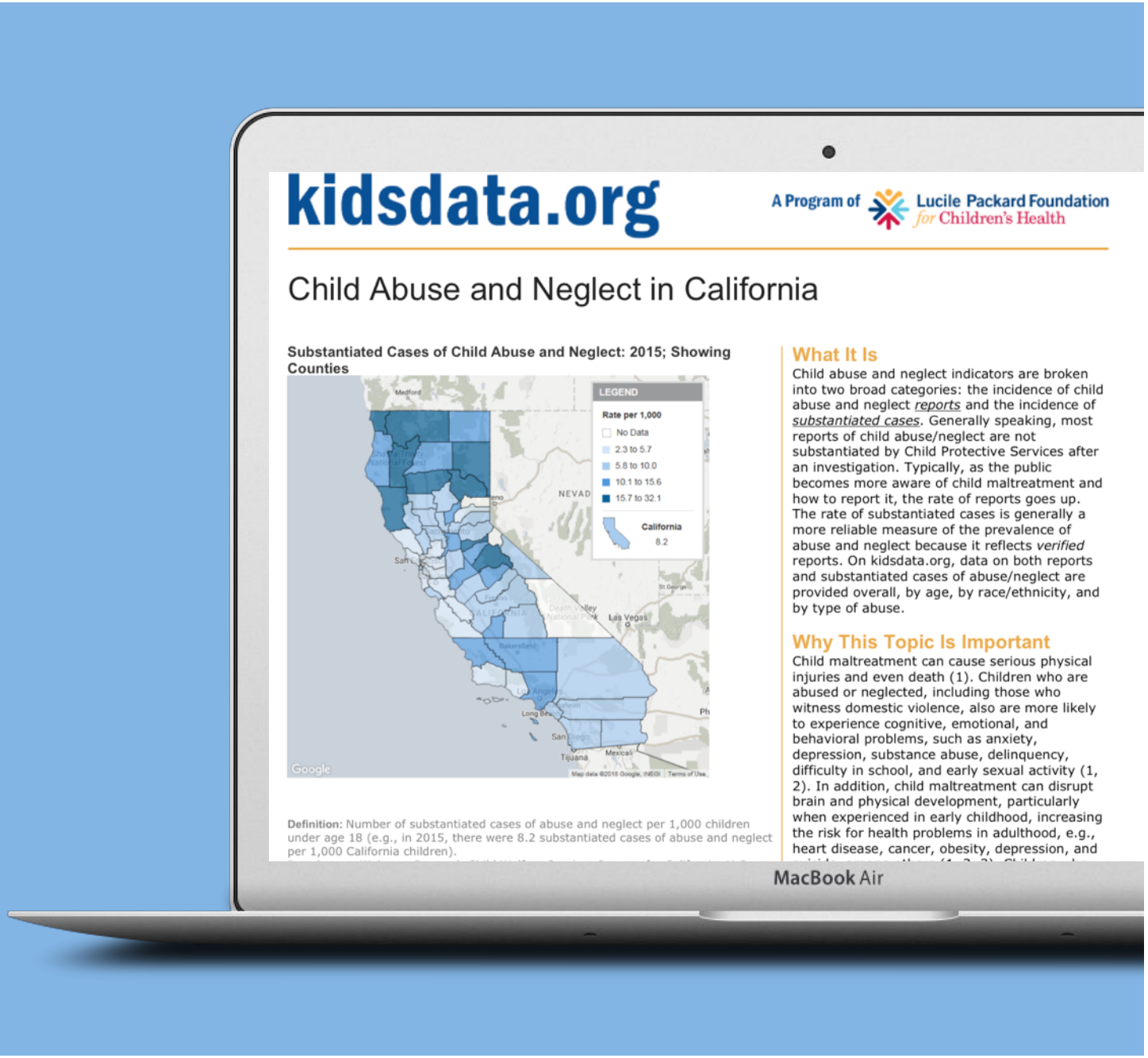
Lessons Learned:
Process Matters


Lesson # 5
Always talk to your end-users

Talking to your constituents – early and often – is the best way to ensure that you build data tools that are useful and used.

Example

Lesson # 5




Lesson #6
Don’t start with the complete story.

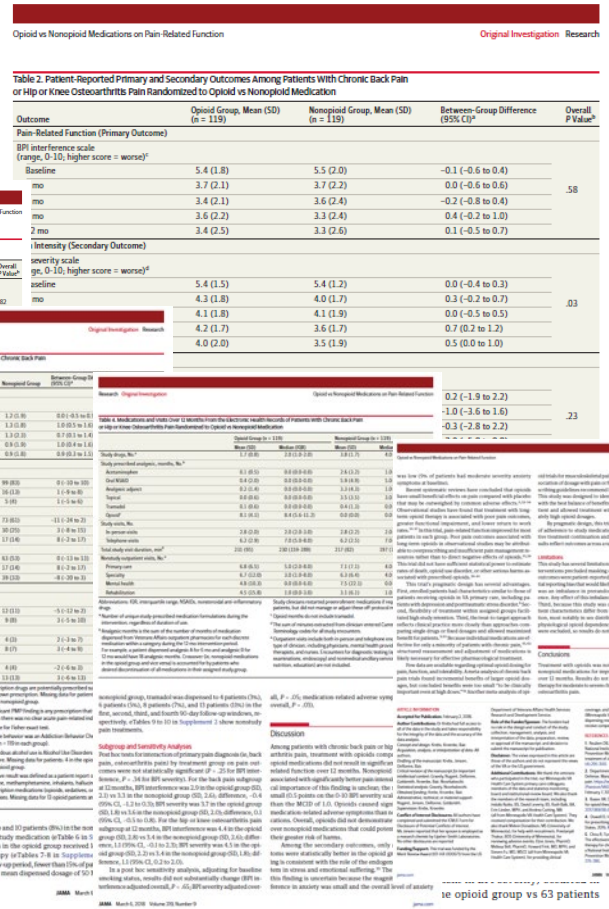
Research

JAMA | Original Investigation

Effect of Opioid vs Nonopioid Medications on Pain-Related Function in Patients With Chronic Back Pain or Hip or Knee Osteoarthritis Pain
The SPACE Randomized Clinical Trial

Erin E. Krebs, MD, MPH; Amy Gravely, MA; Sean Nugent, BA; Agnes C. Jensen, MPH; Beth DeRonne, PharmD; Elizal Kurt Kroenke, MD; Matthew J. Bair; Siamak Noorbaloochi, PhD

IMPORTANCE Limited evidence is available regarding long-term outcomes of opioids compared with nonopioid medications for chronic pain.



What works better for long-term pain?

Opioids or Non-Opioids?

What We Already Knew: We knew that opioids were more likely to cause serious harms such as injuries, breathing trouble, addiction, and even death.

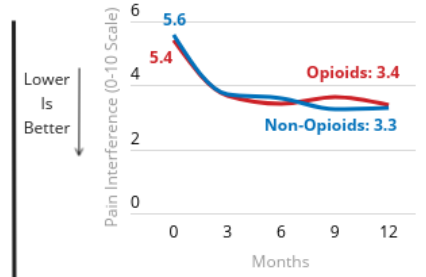
What We *Didn't* Know: Patients and doctors didn't know if opioids worked better for long-term pain than non-opioid pain medications.

What Was Studied

VA doctors and researchers recruited 240 VA patients with long-term back, hip, or knee pain. One group received opioids, such as morphine and oxycodone. The other group received non-opioids, such as lidocaine cream, acetaminophen, and naproxen. After one year, this is what they found:

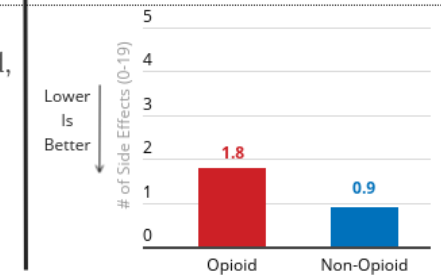
How much does **pain interfere** with your...

general activity, mood, walking ability, normal work, relations with other persons, sleep, and enjoyment of life?



Most study participants in **both groups improved** over the one-year study.

Patient-reported, medication **side effects**

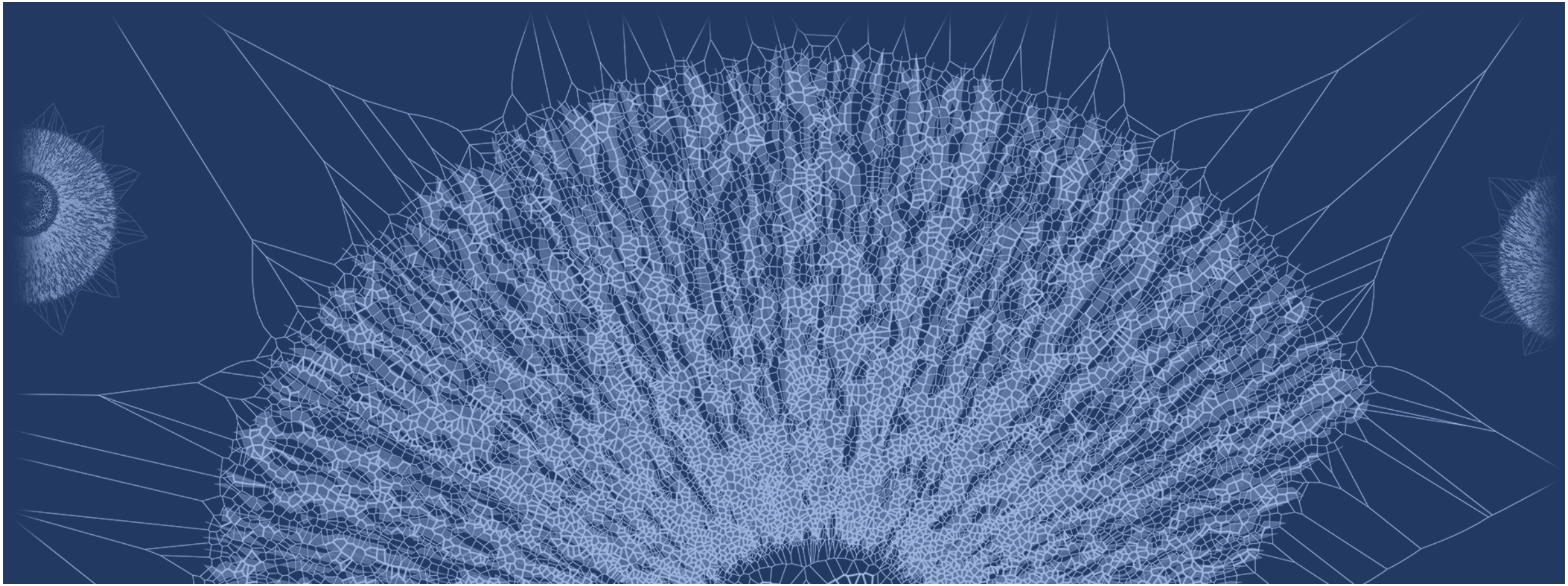


Medication side effects were **twice as common** in the opioid group.

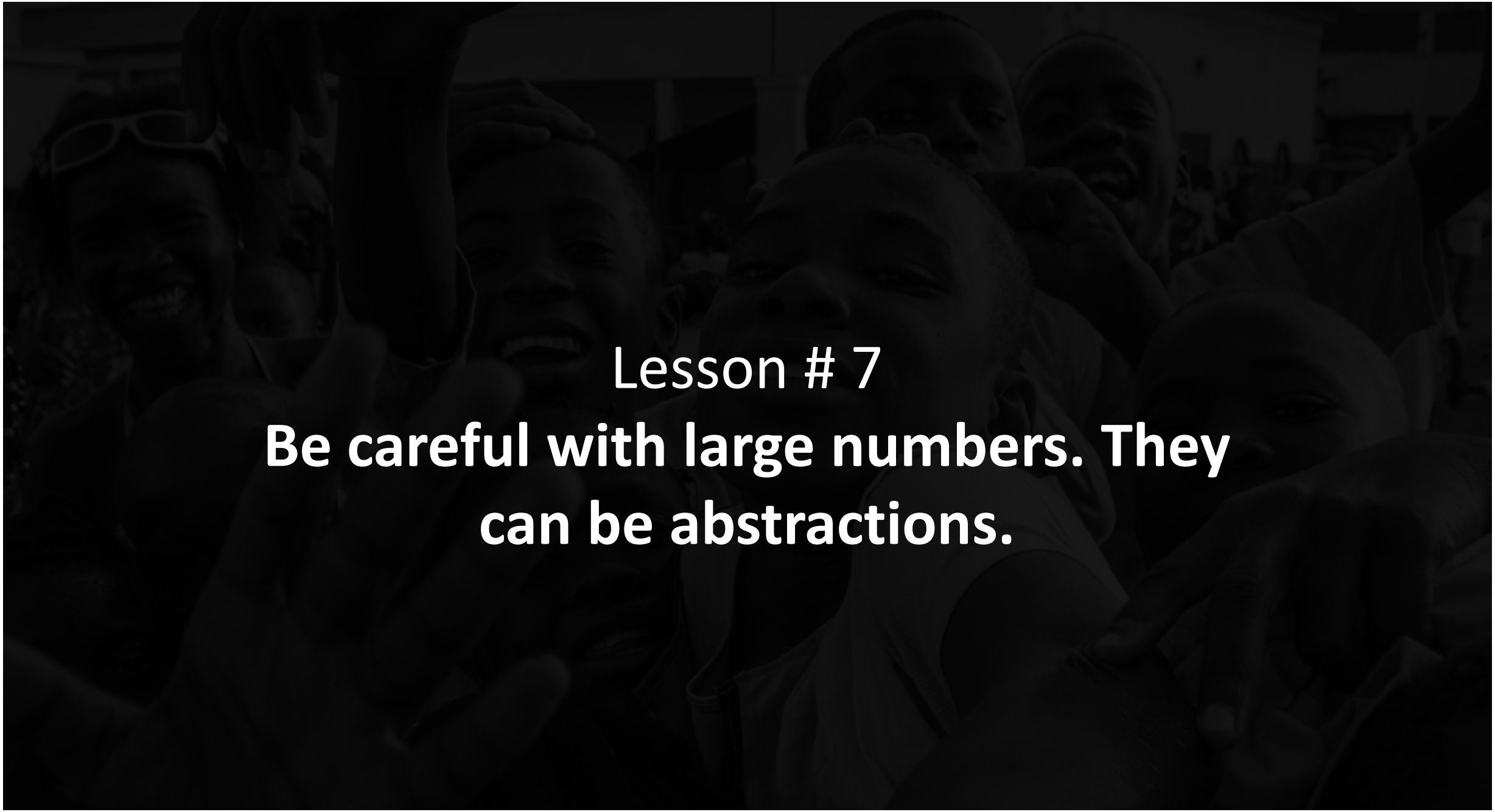
VA doctors and researchers concluded that opioids did not work better than non-opioids for long-term pain

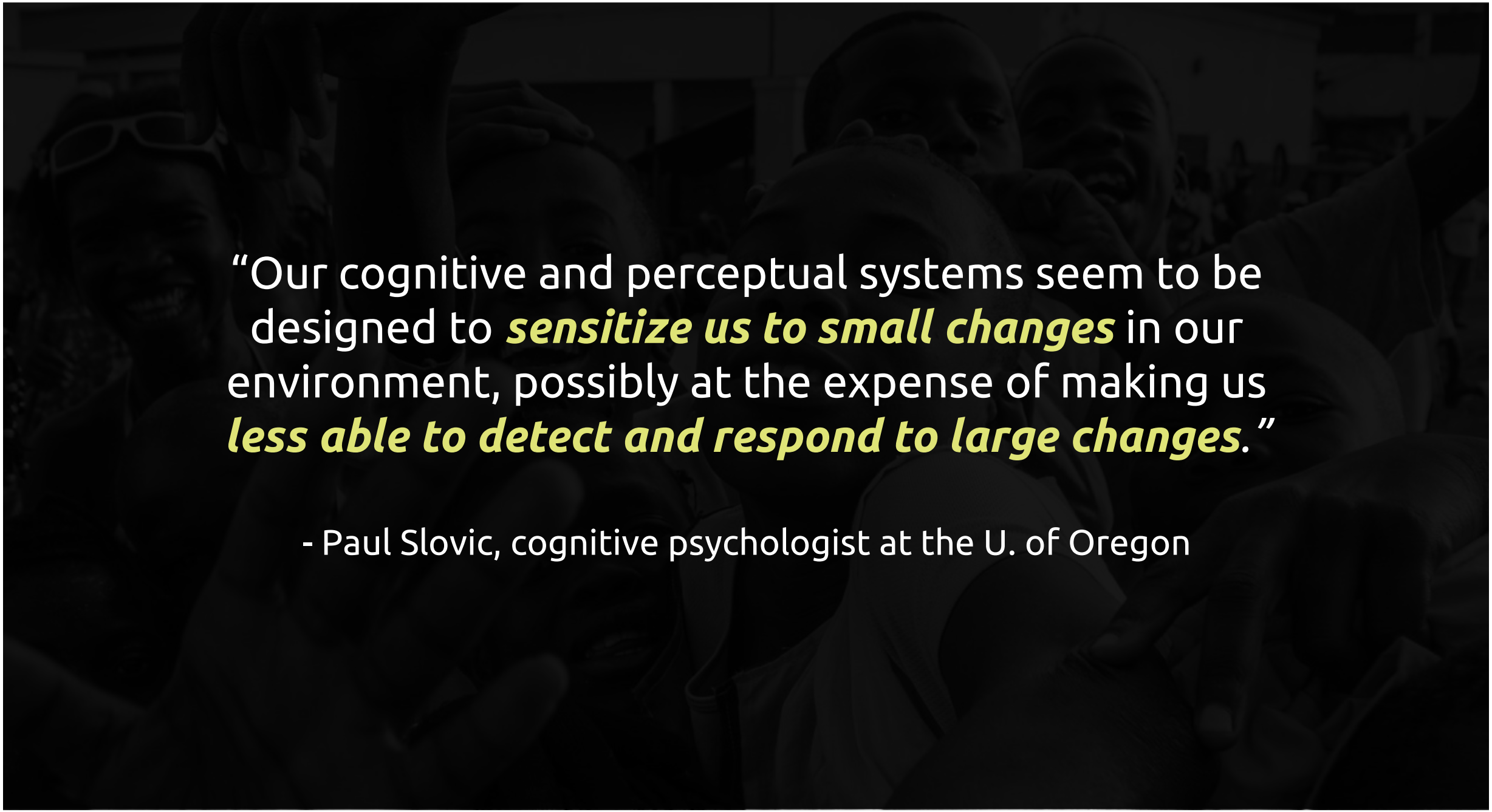
See the full study from the *Journal of the American Medical Association*: https://jamanetwork.com/journals/jama/fullarticle/2673971

U.S. Department of Veterans Affairs
Veterans Health Administration
Office of Research & Development



Lessons Learned:
Make Data Relatable


Lesson # 7
Be careful with large numbers. They can be abstractions.


“Our cognitive and perceptual systems seem to be designed to sensitize us to small changes in our environment, possibly at the expense of making us less able to detect and respond to large changes.”
- Paul Slovic, cognitive psychologist at the U. of Oregon

Non-digital representations of large numbers can be equally effective, too.

"All the News That's Fit to Print"

The New York Times

EARLY EDITION

VOL. CLXIX .... No. 58,703 © 2020 The New York Times Company NEW YORK, SUNDAY, MAY 24, 2020

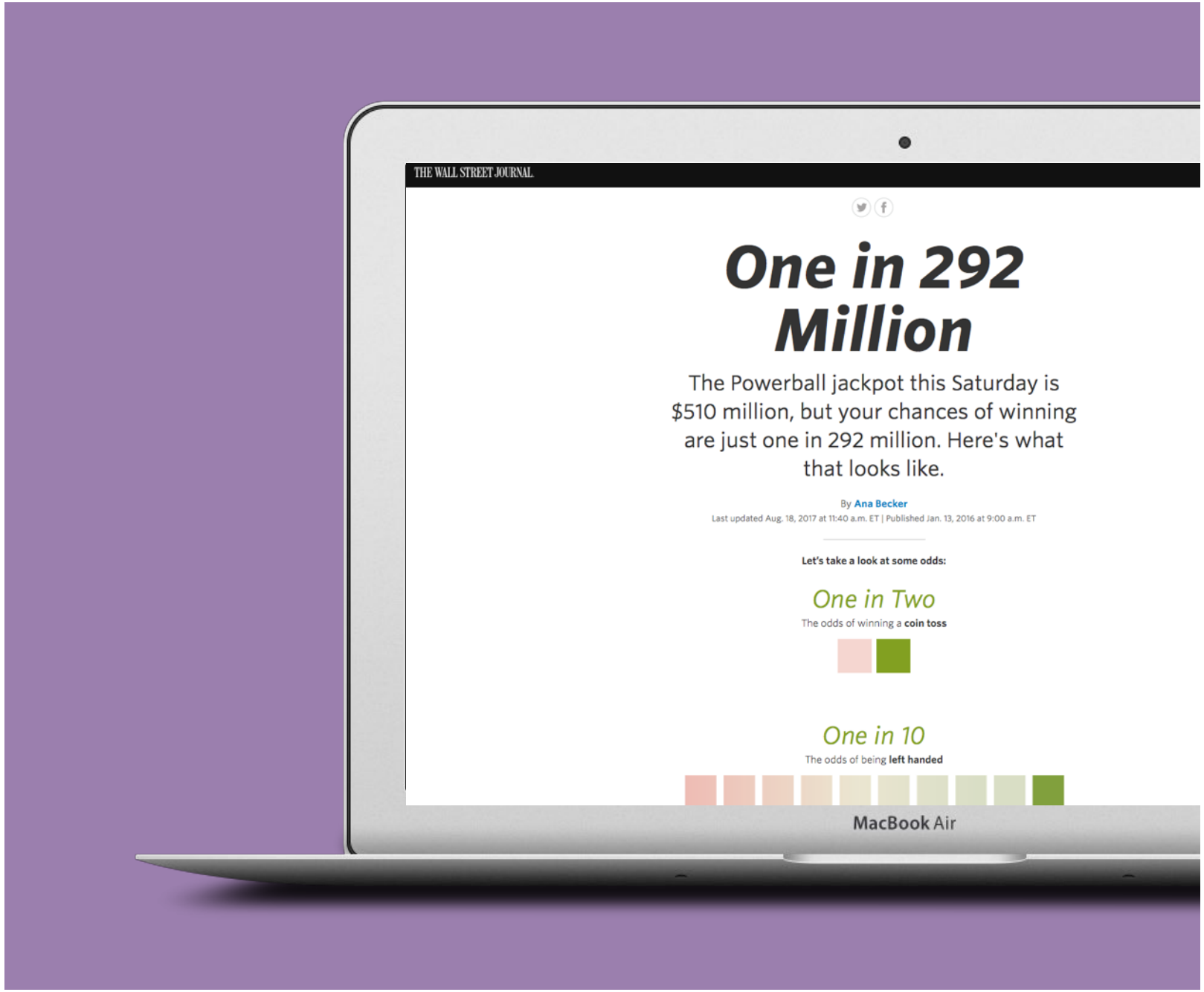
U.S. DEATHS NEAR 100,000, AN INCALCULABLE LOSS

They Were Not Simply Names on a List. They Were Us.

Numbers alone cannot possibly measure the impact of the coronavirus on America, whether it is the number of patients treated, jobs interrupted or lives cut short. As the country nears a grim milestone of 100,000 deaths attributed to the virus, The New York Times scoured obituaries and death notices of the victims. The 1,000 people here reflect just 1 percent of the toll. None were mere numbers.

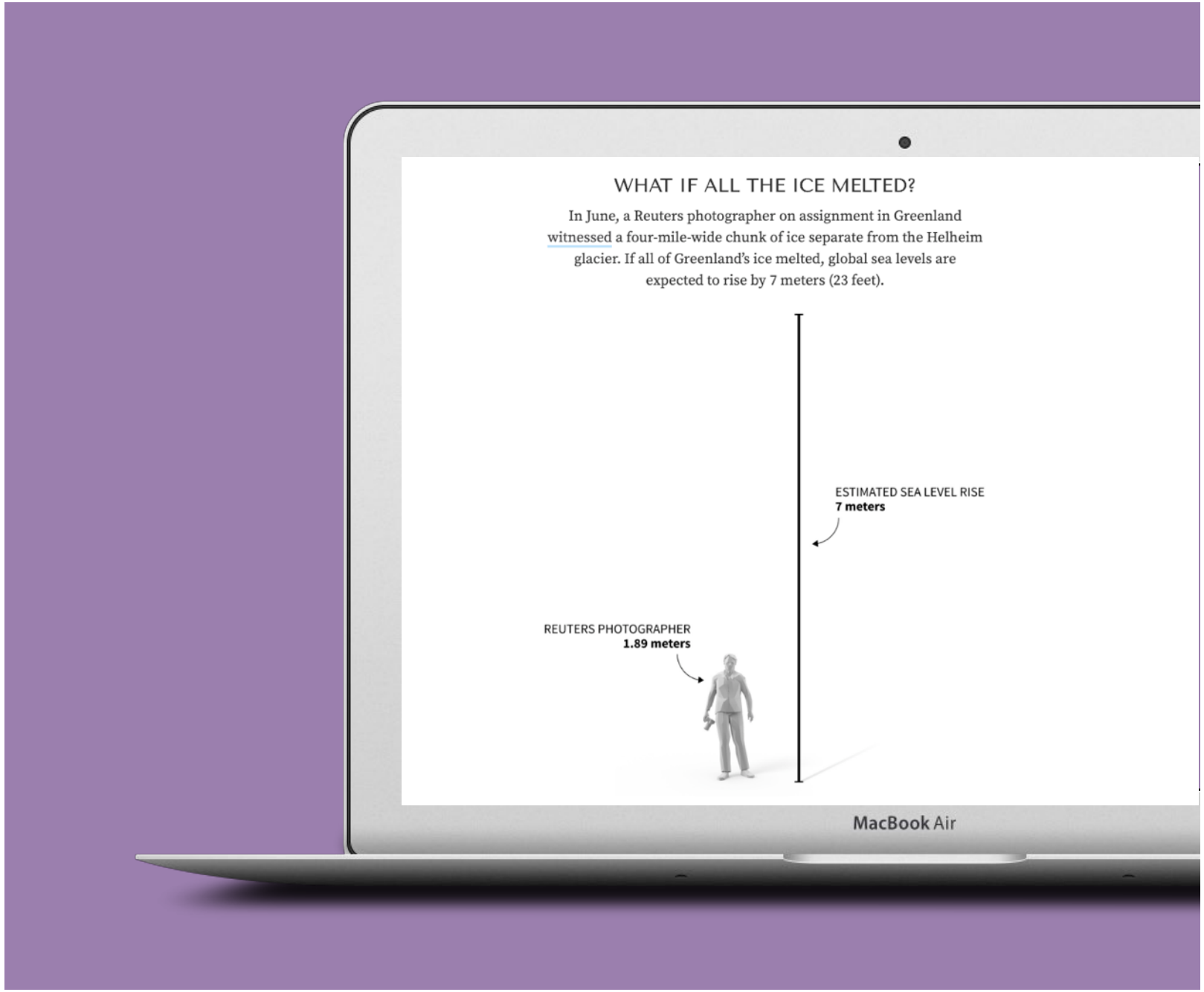
Lesson # 7

It’s hard for humans to appreciate numbers that are larger than what we experience in our day-to-day lives.



Lesson # 7

To make large numbers relatable, you can compare data to known objects.



Lesson # 7

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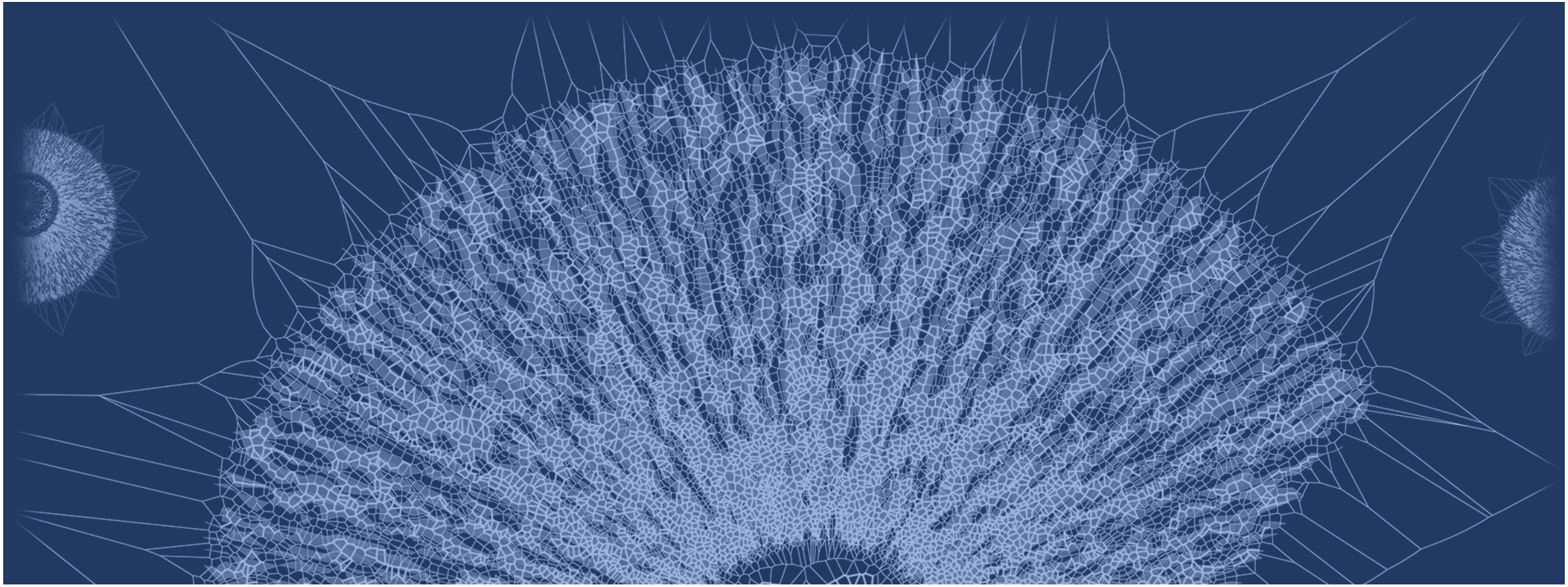
Lesson # 7


Lesson # 8
Finally, let’s not forget
to make data fun…

Create intellectual exercises from data, in order to engage your users and encourage them to share what they're learning.

Example

Lesson # 8

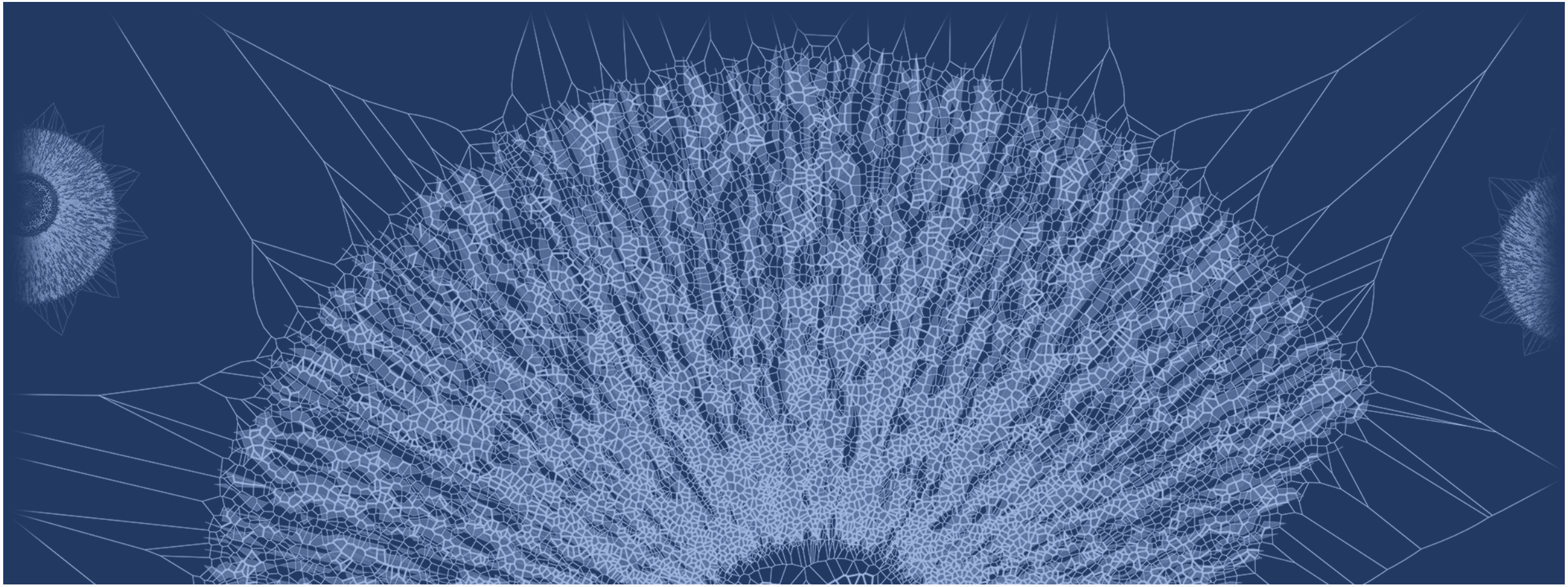


Data Tools

Free Tools you can use to create maps, graphs, and stories

(in addition to Excel, Google Sheets, PowerBI or Tableau):

- ☑ **Infogram** (see tutorial)
- ☑ **Datawrapper** (see tutorial)
- ☑ **Flourish** (see tutorial)



Practice Building a Data Story

Now it’s your turn…

We’ll break into groups to think through
a data story.

We’ll supply the data.
You’ll come up with the story.

Your Group's Goal

- Choose an audience/action
- Determine ways to visualize data
- Consider the content to include in a data story and a presentation format

Questions to Discuss:

- **For which of the above measures are the data most compelling? That is, what do you think is most important to share with others (choose one or two measures)?**
- Audience: What specific audience do you most need to reach with these data?
- Action: What do you need that audience to do with the information you're presenting?
- What kinds of graphs or maps would you use to summarize these data? In other words, how would you visualize the data you want to share?
- How would you bolster these data with a story?
- What format would work best for presenting this content to your audience?

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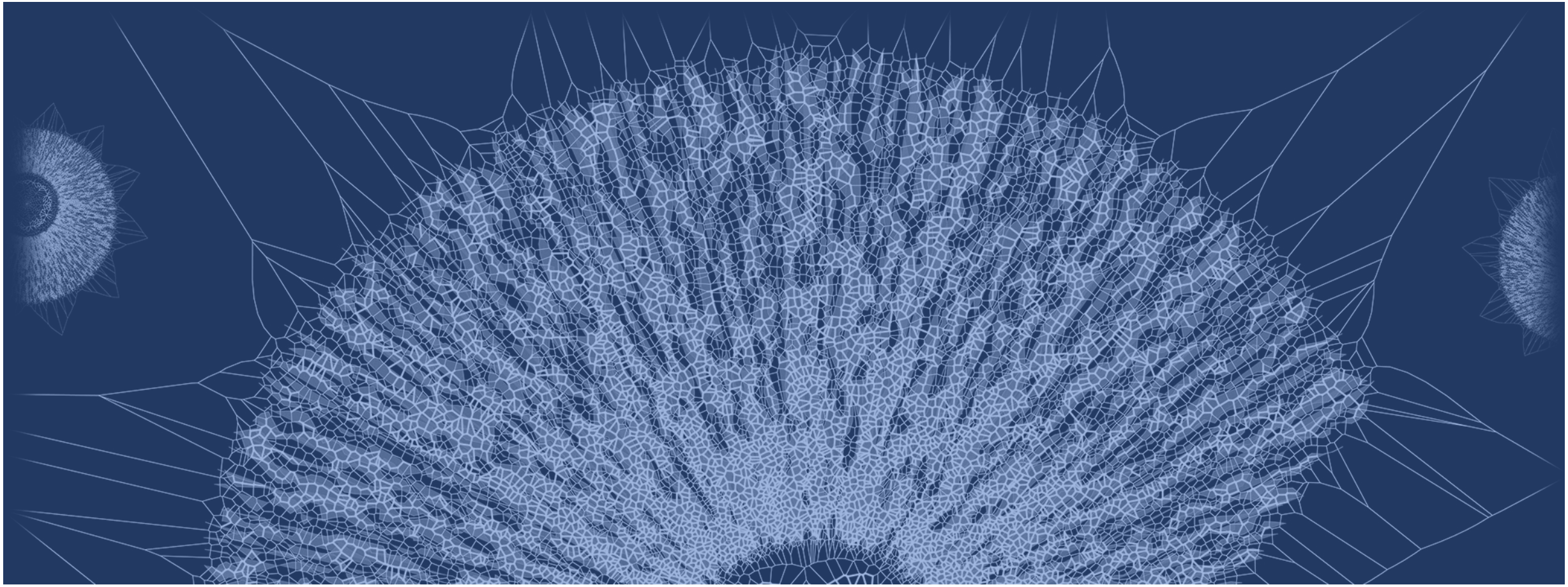

Data Story Report Out

Let’s see what you came up with…

Thank you.

andy@hillcrestadvisory.com
(if you have a question)

www.hillcrestadvisory.com
(more resources)